Genesee Farmer.

THE PRACTICAL AND SCIENTIFIC FARMERS OWN PAPER.

VOL. XX, SECOND SERIES. ROCHESTER, N. Y., MARCH, 1859. No. 3.

ARE AMERICAN FARMERS INTELLIGENT?

"SOME editors of agricultural papers seem to try which of them can *blarney* the farmers the most. One editor of an excellent agricultural paper said, some month or two ago, that the American farmers were the *most intelligent and enterprising of any on the globe.* This, I thought, was like a minister of the gospel preaching to please sinners, in order to fill the pews, because I did not think he *wrote what he believed.*"

The above extract is from an article in the *Country Gentleman*, written by our respected friend and correspondent, JOHN JOHNSTON. From the fact that we entertain such sentiments, and have used language similar to that quoted, we presume the shot is aimed at us.

We beg leave to assure Mr. JOHNSTON, that though we may not always write what we believe, we always believe what we write. We expressed our deliberate conviction, when we wrote, "The American farmers, *as a class*, are the most intelligent and enterprising in the world." Is there anything so improbable in this that we must be accused of *blarneying* our readers? Certainly we had no such intention. If we consulted merely our own interest in what we wrote, it would not be good policy to extol the American farmers at the expense of those of other nations. Many of our best and most active friends and correspondents are English and Scotch, while we have thousands of readers who are of foreign birth. It is as contrary to our interest as our inclination to say one word calculated to give them offence. It is true that, in speaking of *American* farmers, we designed to include *all* who cultivate the land in the United States and the British American Provinces. Taking them as a whole, they are eminently distinguished for their intelligence and enterprize.

The best farmers in the world, at the present time, are undoubtedly those of England and Scotland. M. DE LAVERGNE, an eminent French writer, accords them this high position, and proves, by reliable statistics, that, notwithstanding "the superior soil and climate of France," the yield of cereal grains is not half as much as that of England; while "the average return of an English sheep farm is six times greater than of a French one." He states, too, that "the English cows give twice the milk of French cows;" while in the production of meat, the English farmer is still further ahead. A well-known German writer, STOCKHARDT, in his *Chemical Field Lectures*, also gives the English the credit of being the best and most scientific farmers. He says: "Let us inquire only of English agriculturists; * * * let us calculate the sums which have been expended in that country, by agriculturists themselves, with the view of extending and deriving larger returns from chemistry; and we shall not only arrive at a knowledge *of the extraordinary and mighty efforts made in England, and the extremely slight attention paid in Germany to chemico-agricultural objects*, but also at the conviction that there a harvest has already been reaped, while cautious Germany is still debating the question whether the seeds sown by chemists possess a germinating power or not." The italics in the above extract are STOCKHARDT'S.

The point we have to determine, therefore, is whether the English or the American farmers, *as a class*, are most intelligent and enterprising. The question is not whether the English or the American farmers produce the best crops, but which are the most intelligent and enterprising. It would be absurd to say, because a farmer residing near a large city obtained better crops than one more remote, that *therefore* the one was more intelligent than the other. We must take into consideration the circumstances of the two farmers—or of the farmers of different countries—before we can arrive at a just conclusion.

We have had considerable acquaintance with both English and American farmers, and are quite satisfied that, *as a whole*, the Americans are the most intelligent and enterprising. There are a greater number of thoroughly-educated gentlemen among the English farmers—many eminently scientific men who are an honor to the profession—

men who have few compeers in this or any other country. These men, by precept and example, have given direction to British agriculture. They have introduced many scientific improvements. These improvements have been extensively and successfully adopted by men who have no scientific attainments. So that the high state of English agriculture does not, necessarily, indicate a high state of mental culture among the majority of English farmers. The influence of *example* and the force of circumstances, rather than *general* intelligence, are the main reasons for the great superiority of British agriculture.

English farmers, *as a class*, do not read as much as American farmers. The aggregate circulation of all the English agricultural papers is not greater than that of the *Genesee Farmer* alone; and in addition to the *Genesee Farmer*, we have the *Albany Cultivator*, the *American Agriculturist*, the *Ohio Cultivator*, the *American Farmer*, the *Southern Planter*, the *Southern Cultivator*, the *New England Farmer*, the *Valley Farmer*, the *Wisconsin Farmer*, the *Farmers' Magazine*, and many others, all old, well-established, and extensively-circulated journals, devoted exclusively to agricultural and horticultural subjects; to say nothing of the weekly agricultural papers, such as the *Country Gentleman*, the *Homestead*, the *Boston Cultivator*, the *New England Farmer*, the *Massachusetts Ploughman*, the *Rural New-Yorker*, the *Maine Farmer*, the *Prairie Farmer*, the *Ohio Farmer*, the *Michigan Farmer*, the *Rural American*, and several others, all of which enjoy a liberal patronage. The sale of agricultural books, too, is much greater here than in England.

We are aware that America, as yet, has produced few agricultural books of any great value; but this, so far from indicating a lack of general intelligence among the farmers, proves rather the great demand for agricultural information. If poor books sell so well, good books—containing the information which farmers need—would sell better.

That American farmers are not as well educated as is desirable, must be admitted. Still, as a class, they will not suffer by comparison with those of any other nation. We are not *blarneying* in saying this. We have a great respect for American farmers, as well as for those of Canada. They have cleared the wilderness, and made the desert blossom as a rose. They have done well, and deserve the credit.

Mr. JOHNSTON thinks the American farmers are not intelligent and enterprising, because *they have exhausted their land by over-cropping.*

We think it is impossible for a farmer to *exhaust* his soil—that is, take out of it all, or the whole of any one, of the elements of plants which it contains. If a farmer has a field which has been heavily manured, and he sows it with grain for a few years, he exhausts the *manure*, but he does not exhaust the soil. New land has been heavily manured by the annual fall of leaves, etc., for centuries. By a scourging system of tillage, we *exhaust* this coat of natural manure, but we do not exhaust the soil—we reduce it to a more normal condition. Instead of censuring the farmers of a new country for availing themselves of the elements of fertility accumulated in the soil, we think they acted well and wisely in converting them into crops which would command the ready cash. In some cases, as Mr. JOHNSTON says, they may have wasted the money so obtained; but as a rule it has been expended in improving the country—in fencing the land, in building houses and barns, in digging canals and constructing railroads. Churches, school-houses, academies, and colleges, all represent money dug from the soil. An indolent, ignorant, unenterprising race of farmers would have let this wealth lie dormant in the soil.

We can not but think it was well to avail ourselves of the food of plants lying dormant in the soil. We have now advantages for cultivating the soil which the early settlers did not enjoy. The soil is not as rich—the natural manure has been perhaps exhausted, and we must now add manure to the soil if we would grow as good crops as formerly. Our agriculture is in a transition state. Farmers may not readily adapt themselves to their altered circumstances. Their crops may have been sadly deficient for a few years; but they are now beginning to farm better—to underdrain, keep more and better stock, make more and better manure,—and in a few years, if we are not much mistaken, we shall witness very great and general improvement.

LIVE AND DEAD WEIGHT OF HOGS.—E. CORNELL, of Ithaca, N. Y., furnishes the *Country Gentleman* the live and dead weight of some large hogs, obtained at a "hog killing festival" in Groton. Four hogs, weighing alive in the aggregate 3,100 lbs., weighed when dressed 2,643 lbs. In other words, 100 lbs. of live weight gave a fraction over 85 lbs. dressed. This is an unusually high proportion of dressed to live weight. If the hogs had been less fat, the results would not have been so high. The general estimate of good hogs is 80 lbs. carcass to 100 lbs. live weight, or a deduction of one-fifth—varying less or more, according to the age, breed, and degree of fatness, of the hogs.

MODEL AND EXPERIMENTAL FARMS.

We learn from the *Southern Farmer* that there is a "probability *that the Model Farm will be given up.*"

This farm is located near Petersburg, Va. It belongs to the Union Agricultural Society of Virginia and North Carolina. It was the first farm of the kind established in the United States. Its failure, however much to be deplored, is nothing more than might have been expected.

For a few years past, there has been a very general and praiseworthy desire, on the part of our most intelligent farmers, for scientific information in regard to the rationale of agricultural practices. This desire for more definite knowledge led to a simultaneous movement in various parts of the Union, in favor of the establishment of "Model and Experimental Farms." Attempts at establishing such institutions were made in Virginia, Pennsylvania, Massachusetts, Michigan, New York, Maryland, and Iowa. We hope every one of them may succeed, but shall not be disappointed if they all share the fate of the one in Virginia.

Those who originated, or have control of these institutions, in many cases, appear to have what we regard as erroneous views of the objects of an experimental farm. The very name "*Model and Experimental Farm*" indicates a lack of definite ideas on the subject. No farm can be both a *model* and an *experimental* farm. You might as well expect to have a "model" and profitable orchard of seedling apple trees, as to have a model—that is, a profitable—and experimental farm. Among the seedlings you might have two or three varieties that are better than any yet known; but the great majority would be inferior to those which have been previously tested and recommended by experienced pomologists. So on an experimental farm, some of the experiments might afford better results than the ordinary practices which have been adopted by experienced farmers; but the majority of them must, from the nature of the case, yield results less favorable than the best practices at present adopted.

The worthy superintendent of the Virginia "Model and Experimental Farm," in his report for 1855, wrote as follows: "I will only again express to your Board my increased and confirmed conviction that your experimental farm *will ere long become self-sustaining if not remunerative* in its results, notwithstanding the adverse and unfavorable opinions of many."

A small portion of a farm may be devoted to making experiments, and the profits on the other portion may be sufficient to defray the expenses of these experiments. But in this case the profits must be larger than they usually are, and the experiments must be such as any farmer can make—experiments involving so little care, labor, and expense, as to be of little value.

In instituting experiments, it is assumed that we are ignorant of the *best* system of tillage, of rotation, of manuring, and of general farm management; and the object is to discover it. To obtain this information, we must experiment—we must *try* various systems, modes of tillage, manures, etc. Some of these, as we have before said, *may* be better than those now adopted—many of them will be worse. These trials, too, must be made with great care and accuracy; they must be systematically carried on for several years, or we shall draw from them hasty and erroneous conclusions. Such experiments cause serious interruptions to the general business of the farm, besides involving much extra expense and labor. A good experimental farm, therefore, can not be a profitable one. It is vain to expect it. The agricultural papers of England and this country have commented on the fact that the experimental farm near Dublin, Ireland, has entailed serious loss on its managers. But such a result should excite no surprise. The justly celebrated experiments at Rothamsted, which have done so much to increase our knowledge of agriculture, have cost Mr. Lawes, for many years, from $10,000 to $15,000 per annum. Boussingault's experiments in France could only have been carried out by a millionaire. Even the small and worthless experiment which Liebig made on his ten-acre farm near Geissen, cost $3,200; and we may be allowed to say that our own experiments on corn, notwithstanding the New York State Agricultural Society were so kind as to award us their first premium of $75, entailed considerable loss; and such was also the case with the experiments on potatoes, Chinese sugar cane, &c. In this we were not disappointed. We never expect to see a self-supporting experimental farm; and the sooner such an idea is abandoned, the better for the cause of scientific agriculture.

The experiments which have been made on the Model and Experimental Farm in Virginia, were such as we might expect from an experimental farm which was designed to be "self-sustaining." Not one of them was designed to throw light on the *principles* of agriculture. They have mostly been trials of this, that, or the other guano, or superphosphates of different manufacturers, the value of which a good analysis would determine as well as the most careful experiment.

We have said that any intelligent farmer can make—and hundreds do make—just as good experiments as the managers of any "self-sustaining" experimental farm. He must be a sad bungler who makes worse work than is described in the following record from the report of the superintendent of this model farm:

"On the 11th, two acres of pea fallow were sown, at the rate of 1¼ bushels of early purple straw wheat per acre; and on the 12th and 13th, eight acres of corn land were sown at the same rate per acre, and with the same variety of wheat. One hundred and seventy-five pounds Peruvian guano per acre were applied to all. On the pea fallow the guano was well harrowed in, and on the corn land plowed under."

Now it is very desirable to ascertain whether wheat does best after peas or after corn; and it is also very desirable to learn whether guano is best harrowed in or plowed under. But the above experiments will not satisfy us on either point. If more wheat is obtained on the pea than on the corn ground, we shall not know whether to attribute it to the peas or to the guano being harrowed in instead of plowed under. And if more wheat is obtained from the guano plowed under than from that harrowed in, we shall be equally at a loss whether to ascribe it to the method of applying the guano or to the corn being a better crop to precede wheat than peas.

In these remarks, we do not intend to censure the superintendent of this model farm. The position is an onerous one; and when several persons have a voice in the matter—each one wishing to carry out some pet experiment of his own—the result would be a compromise—one experiment counteracting the other, and the whole useless.

Wheat as Food for Cattle.—John Hudson, Esq., of Castle Acre, England, says: "The very low price of wheat has induced us to feed our cattle upon wheat on a large scale, it being cheaper than linseed cake. I never remember so large a quantity of wheat consumed by cattle as there has been this season, and a great deal is being made into malt instead of barley." Mr. H. is one of the best farmers in England, and he thinks that wheat at $1.25 per bushel is not as profitable as other crops or as feeding cattle.

Cure for Warts.—My hands being literally covered with warts, I tried some dozen recommended cures, with no good effect, until I procured some muriatic acid. A few applications, with a knitting needle, to the top of the warts, entirely removed the whole of them in a few days, without causing any soreness or pain.—Thos. Wood, *Pennington-ville, Chester Co., Pa.*

OREGON AND WASHINGTON TERRITORIES.

Few of our readers, whose attention has not been particularly directed to the subject, have any idea of the growing importance of these far-off Territories, in an agricultural and horticultural point of view. Peopled, as all new countries are, by an industrious, independent, thinking, and intelligent population, they have quickly caused the valleys and the hill-sides to bud, blossom, and bear fruit abundantly, richly rewarding the husbandman for his toil and privation. It is not a light labor to fell and remove the massive forests, construct dwellings, out-houses, highways, school-houses, and churches; and yet the hardy pioneers of these distant regions have nobly accomplished their work.

The soil and climate of Oregon appears to be well adapted to fruit-growing, and much attention has been given to that subject. Nurseries have been planted in many places, so that a supply of choice trees is readily obtained, and every facility afforded for extending and developing the horticultural capacities of the country. Apples, pears, peaches, plums, and grapes, as well as the small fruits, flourish well, often growing to a size that to us seems nearly fabulous.

A correspondent, remitting for a club of subscribers from Salem, Oregon, remarks:

"Notwithstanding the Frazer River gold humbug has passed over the land during the past summer, agricultural matters look more promising than ever before in Oregon. Our people have been afflicted with 'gold fever' so often, they take it as our friends in the Western States do the 'ague and fever'—shake a little and go to work again.

"There is an average crop of grain raised this year, price from $1.00 to $1.50 per bushel. The apple crop is about the same as last year. Price eight to fifteen cents per lb. for the grafted sorts. Planting more trees, chiefly late winter apples, and sowing grass seeds, seem to be the leading branches of Oregon farming at present."

A glance at the market reports for November shows flour dull at eight to ten dollars per barrel, butter worth thirty-five cents per pound, and eggs the same price per dozen. Boots, shoes, sheetings, drillings, etc., were reported scarce and high. Short supplies and high prices are incident to a new country distant from large cities and destitute of any considerable number of manufactories; but we may soon expect to hear that the mountain streams, on their way to the Pacific, have been harnessed to thousands of water-wheels for manufacturing purposes, and that the valleys and hill-sides resound with the hum of honest industry, rendering these thriving Territories fit members of this confederacy of States.

HEMP AND ITS CULTIVATION.

HEMP.

At the suggestion of a Canadian correspondent who desires information upon hemp and hemp-growing, with a view of substituting that crop for wheat, we have devoted some time to collating and condensing the information within our reach, not having any practical knowledge or suggestions applicable to the case.

Hemp (*Cannabis sativa*) is an important crop, and has been extensively cultivated for years in different parts of Europe and in some of the United States. Russia ranks first in its production, as well as in the quality of the staple grown. It has been successfully, though we think not very profitably, grown in some counties in England. Judging from the climate and soil of Russia, we should think there would be little difficulty in growing hemp in Canada West, or any of the range of country in that latitude. In Russia, the great bulk of the crop is grown in small patches by the peasants—an evidence that its cultivation is not difficult.

A soil that would be suitable for flax would be proper for hemp; and as the latter is a rank, strong-growing plant, it will probably succeed well even on soils that are not as fine and thoroughly pulverized as those usually devoted to flax. Good, fair, well-manured soils, even those somewhat clayey, as well as old meadows, rich alluvial and even reclaimed muck-beds, are adapted to its growth. A grass or clover sod, fall plowed, and then re-plowed in the spring, is best for it. It does not succeed well on new land. As it roots deep when well grown, the soil should be made deep and well broken.

Early sowing is recommended as producing the best crop. After danger from severe frosts is passed, seeding may be performed, and continued as late as the first of June. In this section, from 1st of May to June 10th would probably be the desirable time. Where large amounts are grown, it would be preferable to sow at different periods, on account of convenience in harvesting.

Much care is required in the selection of seed, as it is liable to heat unless spread thin and well taken care of until wanted. The seed of the previous year's crop is preferable. From a bushel to a bushel and a half is used to the acre, according to the soil, and many recommend two bushels, thinking the lint is better. While it is important that the ground should be all occupied, it is injurious to have too thick a growth, as a part will thus become smothered after it has drawn much of the fertility from the soil, to the detriment of the balance of the crop. The seed is sown broadcast when a crop of hemp is the object, but succeeds best in drills when a crop of seed is desired. After sowing, the ground is either harrowed or plowed to cover the seed. On old ground, plowing in the seed succeeds best, as it is less liable to be injured by rains and the baking of the earth. Rolling the ground after seeding, is recommended as very useful. As the crop covers the ground so closely as to prevent the growth of grass or weeds, no further attention will be necessary until it is ready for harvesting.

The proper period for cutting is usually from three to three and a half months after sowing, when the leaves become of a yellowish hue. If it stands a week or so longer, it does not rot so evenly, and requires more labor in breaking. Some still practice pulling the crop, though in the United States it is now almost universally cut, which should be as close to the ground as possible. Cutting up is done with an instrument similar to that used in cutting corn.

Whether cut or pulled, the plants are laid on the ground, keeping the butts even, where it lays two or three days, in good weather, to dry. It is thought a light rain, while laying on the ground, is beneficial in assisting the falling of the leaves, which should be removed before the hemp is taken up. This is done by binding in small hand bundles, and setting them up in shocks similar to corn, binding the tops with a band of the same. Some cultivators allow it to stand in the shock until the time of rotting; others put them in convenient stacks, where they remain a year, and sometimes even two years, before exposing them to rotting. By letting it remain so long a period, it undergoes a sweating process, which is supposed to improve the appearance and quality of the lint.

That the soil of large portions of the Northern United States and Canada is suited to the growth of hemp, can not be doubted; though whether it can be made a profitable crop, will admit of question. We are not aware whether there is any contingency as to the stalk coating with a good fibre, as in the case of flax, but presume it is subject to more or less uncertainty. Much attention has been bestowed upon its cultivation in Kentucky and other south-

western States, where it is a source of large profit to the growers. The Hon. HENRY CLAY gave much attention to its growth; and some of the best practical hints upon growing, gathering, and preparing hemp for market, are from his able pen.

There is in all parts of the country a demand for the seed as food for house birds—a demand which requires more seed than would seem credible to one who has no knowledge of the trade. This seed is obtained mostly from Louisville or Cincinnati, and costs there from 80 cents to $1.50 per bushel, according to supply and demand. That enough could be grown in the vicinity of large towns, to supply this want, there is no doubt; but that raising the seed to a large extent would prove profitable, we do not believe. Dependence would of necessity be placed upon the sale of the fibre prepared for market. Upon the manner of rendering hemp marketable, some detail will not be out of place.

There are two modes of rotting hemp, though only that of dew-rotting is practiced to any considerable extent in this country. This is accomplished by spreading the hemp on the ground, as flax is spread for the same purpose. This may be done in autumn or in the spring. Mention is made of winter-rotting hemp by spreading it in December, in which case, with northern farmers, it would remain out all winter; and some strongly recommend this course. As it would not be gathered before September probably, it would in most cases be nearly impossible to dew-rot the crop before spring. Where winters are less severe, the rotting may be best performed during those months. Winter-rotted hemp has a brighter color than that rotted in the fall. How the case would stand with spring-rotting, we can not say. After the crop is spread, for which grass lands are best, the length of time necessary to complete the rotting will depend upon the temperature and degree of moisture that prevails. In a wet warm spell, five or six weeks will be enough time. If allowed to remain too long, the fibres lose some of their strength; and if taken up too soon, they are not so easily separated from the woody part, and the hemp will be harsh and coarse. To determine when the hemp is ready to take up, a handful is dried, broken, and partially dressed out; and as soon as the woody part is easily separated, and the fibres are soft and silky, the whole should be taken up and placed in shocks, or, what is better, stored in sheds until the time of breaking. Hemp should never be taken up when it is wet, as the fibre will adhere more closely to the wood and the whole is more liable to become tangled and marred, and the hemp, when broken, will be rougher and harsher. It is taken up with rakes constructed for the purpose; and to be done to the best advantage, requires two or three hands to work together. If it is designed to break and dress immediately, it may be leaned against the fence, and exposed to sun and air.

Breaking can not be done in wet or moist weather. In the hemp districts, February and March are the best months. The work is performed out of doors, with a large fire in the vicinity, which not only keeps the operator warm but dries the stalks and facilitates the operation. The brake in use is similar to that for breaking flax, only somewhat longer and larger. It consists of two jaws, with slits in each. The under one has three slats, and is immovable. The upper one has but two, which play down between the under ones. The upper jaw is worked by the right hand, the operator holding the bunch of hemp in the left, turning and adjusting it, until the woody part has been broken up and fallen through the brake. With a brake of necessary size, it is no easy task to operate. A good hand, it is said, will not average more than 80 to 100 pounds per day, though some more expert have made 150 to 200 pounds. It is generally tied up in bundles at the brake, and sent thus to market, leaving the future process of preparation to the manufacturer. Sometimes it is scutched by the grower, which is a process similar to that known among the early settlers as the swingling of flax—a process not necessary to be described.

Hemp is used for so many purposes that there can, we think, be very little difficulty in finding a market for all that may be produced; and growers will do well to remember that those bundles rotted and prepared with the most care, will command the best prices. The range of prices in years past has been from three to eight dollars per hundred, the general average being not far from five dollars, at which price it is said to compensate well the grower, and be as profitable as most farm crops.

The quantity produced from an acre varies from 600 to 1,000 pounds, according to fertility, good cultivation of the soil, and the season. After reaching six feet, each foot in height to which it grows is claimed to add 100 pounds per acre to the crop—as, eight feet high, 800 pounds; ten feet, 1,000 pounds. It produces from 20 to 40 bushels of seed per acre, when planted in drills and properly cultivated, and has often yielded 50 to 60 bushels on very fertile soil. Choice hemp seed, suitable for sowing, is frequently worth $3 to $6 per bush.

The best quality of hemp is that known as water-

rotted, which is accomplished by its immersion in water until the woody part can be easily broken up and removed by the breaking process. To be successful, this should be performed in warm weather, September being considered the best month. As at that season much sickness prevailed at the South and West, which it was believed was increased by exposure and the malaria arising during the rotting, the practice was very generally discontinued. It has, however, been done in the early part of winter and in spring; and such hemp, at the price paid by government for Russia, is worth $250 to $275 per ton.

Probably some of the readers of the *Genesee Farmer* have an experimental and practical knowledge with which they can favor those who are seeking information on this subject.

CULTIVATION OF HOPS.

The constantly increasing demand for hops, not only for home consumption but for exportation, renders any well-considered facts in regard to their cultivation and subsequent preparation for market, a subject of more than passing interest to the American farmer.

SECTION OF A HOP VINE.

The hop (*Humulus lupulus*) is supposed to have been a native of England, where it was found in hedge rows and waste places. It has been much improved by cultivation and the production of new varieties from seed.

The land best adapted to growing hops is that which is naturally dry, deep, and rich, and which should be made mellow by good culture. Fields gently sloping to the north and east are preferable, as the hop is injuriously affected by the extremes of temperature, and the heat of the sun at noonday. Rolling land is less liable to blight than flats, hollows, and valleys.

It is the practice in Europe to trench hop grounds two and a half to three feet deep; but in this country the plow, and occasionally the subsoil plow with the other, is made to perform the work of preparation. Old meadows are good sites for hop-yards, if favorably located. These should be fall-plowed as deeply as possible, and re-plowed and thoroughly worked in the spring. Lime is often added, not only as an auxiliary to the crop, but for the destruction of worms that sometimes remain in the sod. Hop-grounds are in no danger of being made too rich, and should be highly manured before planting. The hop-field should either be on land so dry as not to heave in winter, or else well drained.

Hop-plants are set in rows, for convenience in after-culture. These rows should be from seven to eight feet apart each way, that there may be room to cultivate the ground and allow the vines to grow strong and bear well. Cuttings from well-established roots are used for planting, and are generally taken off in the preparation of the field for spring growth. These are sold at from 25 cents to $1 per bushel, of which four bushels are required to plant an acre. It is the practice to put five pieces of root four or five inches long in each hill—one in the middle, and the other four pieces about two inches from it, on each side.

The hop-plant is not what is botanically termed *perfect*, the staminate and pistillate flowers being borne on different plants, which renders it necessary to intermingle the male with the female plants, which bear the crop, in putting out a field. They should occur as often as every tenth hill, with the addition of some extra hills on the side from which blow the prevailing winds.

The first year, the soil between the rows should be well worked, and may be planted to potatoes or beans, or even corn; but the latter growing taller, shades the vines and retards their growth. The necessary cultivation of the beans will be no more than the hops require, and will do something toward paying for the use of the land, and the manure which should be applied will be beneficial to the hops as well as to the beans.

The vines put out the first year should be trained to poles; and if the plantation was of roots instead of cuttings, they will bear some hops. After the vines have died down in the fall, cut them off and cover the crown of the hill with some earth and leaves, to secure it from injury by the severe winter frosts.

The second year, the soil will require digging over as early in spring as the weather will permit, mixing in a good top-dressing of some fertilizer.

For this purpose, decayed barn-yard manure, vegetable mold, guano, ground bones, woolen rags and waste, are used. The hills are opened and pruned of all runners or cuttings and old vines. The cutting off should be between the crown and first joint, as from this point come the most fruitful vines. If cut off too low, the vines will be weakly; and if too high, they grow strong, hollow, and unproductive. While performing this pruning is a good time to work in a top-dressing of rotten manure, of which the growing vines will stand in need.

The hills are now ready for setting the poles. These, where practicable, should be of cedar, or some other light wood, not less than twelve feet long, and as much more as convenient, up to twenty. The most experienced hop-growers use two and some even three poles to a hill. The poles should be set firmly in the ground, the taller ones on the windward side of the field, particularly those to which the male plants are trained. After setting the poles, the ground should be plowed out both ways, and cultivated, so as to insure freedom from grass and weeds. As the vines commence running, two good strong ones should be trained to a pole and the remainder cut away, so as not to interfere with the growing crop. The field will require hoeing two or three times during the season, and such vines as get loose or do not climb well, should be tied fast. Often the leaves are stripped off to the height of two feet from the ground, the better to admit air and sunshine.

The hop has its enemies, the most troublesome of which is the *wire-worm* or grub in the root. These are destroyed by digging into the hill and killing them. They are trapped by burying slices of potato or turnip near the hill, on which they gather, and may be uncovered and killed. There are several varieties of the hop-worm, also the caterpillar, flea beetle, hop-aphis, and other insects, that prey upon the leaves and vines. Lime and unleached ashes are good preventives, and birds and insects are efficient helps in their destruction, and should rather be encouraged than driven away. Careful attention and good culture will do much to overcome all these obstacles.

Picking and curing the hops are important operations. When they have a general appearance of ripeness, indicated by a brown color, hard seed, and becoming close and firm, they should be picked with all possible despatch. Picking should commence near the male plants, where the hops are ripest. The vines are cut off at the root, the poles taken up and laid on some frames, so as to be up from the ground and convenient to the picker. While picking, several baskets or light boxes should be at hand, and the hops assorted as they are taken from the vines. Picking should be done early enough to secure the hops from frost; and the sooner done after commencement, the more profitable. As fast as gathered, they should be removed to the dry-house, where they are spread on a floor prepared for the purpose, with a moderate heat underneath, and dried, care being taken to have them of a uniform and light color. Sulphur is sometimes used to give a better and more uniform color, but its use can not be recommended. From the dry-house they go into sacks, into which they should be closely packed to exclude air. Good sacks are preferable to thin ones, and some dealers paint them the more effectually to exclude air.

Much more might be said, and profitably said, upon this subject; but for the present this must suffice. Perhaps some experienced hop-growers can impart additional and better information to our readers. Will they commuicate the result of their practical experience.

REMOVING ROOTS AND BUSHES FROM LAND.

It often occurs, in clearing up a field, that there are many small roots of trees or shrubs which it is difficult to remove, and which are very much in the way if allowed to remain. This is especially true in clearing some of the oak openings or timbered prairies at the West, and also removing the roots of alders and other small trees from low grounds which it is desirable to bring into cultivation. To facilitate this labor, use is made of an implement known as a root puller, which may be readily understood by the accompanying engraving.

ROOT PULLER.

They are constructed of great strength, of the best quality of iron, and perforated at the end so that a chain can be hooked in. These prongs readily grapple under the roots of grubs, small trees, &c., and render their removal less difficult than by any other process. They may be constructed by any expert blacksmith, or obtained at the agricultural warehouses.

NOTES FOR THE MONTH.—BY S. W.

The Sorghum saccharatum.—There is no longer a doubt that the North China sugar cane is a great contribution to the agriculture of the Indian-corn-growing regions of our country. True, the seeds are not to be depended on when grown north of Kentucky; but as it takes but a quart or two of seed to plant an acre, it may be easily procured of southern growth at small expense, from seed-stores. It is a much hardier plant, though of slower early growth, than the Indian corn plant; bears more frost; and may be successfully transplanted when not over three inches high. For soiling cattle and horses, it is better than green corn-stalks; but when kept for winter fodder, it sours even in stook in the field, where corn-stalks keep sweet. In proof of the adaptation of the sorghum to a northern climate, I have a letter from Waupacca county, North Wisconsin, stating that much valuable *sweetening* had been made there from the cane, last fall—a great treat to the poor farmers in that newly-settled region, who clubbed together and got up a cheap wooden mill to grind the canes.

The Imphee, contributed by Leopold Wray, from South Africa, (*Sorgho des Caffres*, Fr.,) has never come within my notice; but the *Bulletin d'Acclimation* of Paris tells us that it is grown in the French Antilles for its forage and very nutritious seeds, and that it is more of a cereal grass than the China cane, the seeds being so full of starch as to be substituted for rice by the plantation coolies.

Rust on Wheat Stalks.—E. S. Bartlett, a very observing farmer who rejoices on a fine large farm on the Seneca lake shore in Romulus, avers that he has proved beyond controversy that the rust on wheat is caused by honey dew; and that, strange as it may seem, this dew never descends in the evening or during night, but only in calm, dry, hot weather; and then at or a little after mid-day. Several years ago, when in the midst of his wheat harvest, on a hot, dry, calm day, when he broke off cradling at 12 o'clock to go to dinner, the wheat stalks were very dry, as there had been no rain in many days, and the sun was uncommonly powerful. On returning from dinner with his men, they were astonished to find the wheat stalks dripping wet with a sweetish fluid that ran from the point of the cradle scythe when held up. There were several tall ash trees in the field, whose leaves were wet, while the wheat growing under them was dry. Before night the wheat stalks were covered with a dry red rust, which was precipitated into a floating powder as the scythe struck them. This rust did no damage to the now ripened grain, as it probably would have done had it come a fortnight earlier on the green stalks. There can be no doubt but that Mr. B. and his men witnessed this phenomenon. Has anybody else ever witnessed the same?

Corn Fodder.—Jos. Wright has kept 50 horses in fine order all winter on corn stalks very finely cut by steam power. A little Indian meal is sprinkled on the cut and moistened mass. He thinks this feed is a saving of one-half over hay and oats. The large stalks of the Ohio dent corn are preferred to the smaller stalks of the flint corn, for they retain their sugar much better, as the animals testify in the avidity with which they devour the fine cut mass even without the meal. But Mr. W. says corn fodder that has ripened no cereal crop will fatten horses without the aid of meal; hence it is hereafter to be one of the standard crops on his matchlessly-improved domain.

Fattening Hogs.—Here is a farmer who has 700 bushels of corn to sell at 75 cents per bushel—the present cash price. He boasts that his eleven large hogs only eat the unsaleable soft corn, which would have been a dead loss but for the hogs. Would it not have been better for this farmer to have planted all his corn before the first summer month had half run out, so as to fatten his hogs on hard, ripe corn, boiled to make it soft, or ground and boiled with small potatoes, pumpkins, carrots, etc.? Then half the number of bushels would have fattened his hogs, and he would have had the balance to sell at the present high price.

Waterloo, N. Y., Feb., 1859.

CORN FOR EXPORT.

Eds. Genesee Farmer:—"When an American farmer sells corn, it must be for exportation to England." Thus infers Dr. Lee *for* a writer in the *Mark Lane Express*. No one but the Doctor would "draw" *such* "an inference." In that respect, he is more than a "match" for the rest of mankind, and the "horse" beside.

The Doctor says: "It is the business of the purchaser of corn for foreign consumption, to see that it is sufficiently dry to keep sound during a sea voyage." This would be a difficult matter, if corn, when offered for sale, should contain "about twenty per cent. of water." Moreover, some persons do not fully understand the nature and property of the article they purchase. Is it the privilege of sellers to take advantage of the ignorance of buyers, to gain by their loss?

Again he says: "It is not enough to dry corn perfectly" "to have it keep well in a common granary at home, and much less in a hot ship's hold." What makes a ship's hold hot? If corn be *perfectly* dried and put into a *dry* ship's hold, it may be taken to England, and delivered in good condition; or, if need be, I believe it may be returned in good condition without breaking bulk. It may be presumptious to doubt the Doctor's knowledge on this point, but I certainly do. Not being a corn-dealer, however, I shall not try the experiment suggested, unless he will furnish the corn, and procure a suitable place to dry it. I would also ask, Is it necessary to occupy the whole summer in taking a ship to England?

Suppose what is said, by Dr. Lee, in relation to corn being "dried once, or ten times," to be reasonable—which is not conceded—is it reasonable to leave "twenty per cent. of water" in it, because, if expelled, it would be again absorbed in an indefinite time?

The matter may be thus stated: Dr. Lee says: "When farmers sell corn soon after it is ripe, there is considerable gain in not keeping it long to shrink and dry in weight." The writer in the *Mark Lane Express* probably having seen large quantities of that grain in an almost worthless condition, which had been shipped from America, doubts the policy of recommending the advantage, as a matter of gain, of selling it in an unsound state. Dr. Lee writes a captious artic'e in reply, containing little or nothing to the point. He frivolously carps at

an accidental solecism, when the sense is obvious. The idea, involved in his remark, that "almost any American school-boy might teach John Bull," is too stale to be witty. His gratuitous advice to Englishmen to "visit the United States and put up corn and meal," may pass for what it is worth.

Rochester, N. Y., Feb'y, 1859. JOHN BRADFIELD.

CULTIVATION OF BARLEY.

For several years, since the wheat crop became so uncertain, much barley has been grown, with varied success in different localities and on diversified soil. Inquiry is often made for the best manner of growing the crop, land best suited for it, and many other details. We know of no better way to give answers than by extracts from the letters of practical farmers who have favored us with their experience in growing the crop.

A good rich loam is best for barley. Land that will produce twenty to thirty bushels of spring wheat will generally produce from forty to fifty of barley.

The best method of cultivation is to plow the land in the fall, either sward or corn ground, and, as soon as the land is dry enough in the spring, cultivate it thoroughly; then sow not less than three bushels of clean two-rowed barley per acre. Harrow it in thoroughly, then roll it down, and you have no more trouble with it until most of the heads are turned, when it should be mowed and raked into winrows with hand-rakes, and cocked up about the size of common hay cocks. If the weather is good, they will cure out in five or six days, ready for the mow or threshing machine. If the weather is wet, it will be necessary to open the cocks. It must be well cured and dry when put into the mow, otherwise it will heat and injure the grain. Save all the straw, which, if cut in season and well cured, is worth more per ton than poor hay. H. H. TAYLOR.

East Rodman, Jeff. Co., N. Y.

In respect to the selection of seed, there are two varieties, the four-rowed and the six-rowed. The four-rowed is generally preferred for the reason that it is stiffer in the straw, and hence not so apt to lodge or fall down with rain storms. It has also another advantage: the grain is larger, rounder, and more plump, and, as a matter of course, weighs more to the bushel. The six-rowed barley differs from the four-rowed in one very essential point, viz., it is eight or ten days earlier, and that is a very decided advantage, inasmuch as the saving of a week would in some cases amount to the saving of the crop, by enabling it to mature before the excessive heat and drouth in the last weeks of July, which sometimes dries up the straw and prevents the grain from filling.

In the selection of land, it is an invariable rule that dry, warm, gravelly or loamy land, is best; but it is a more difficult matter to judge of what particular condition or strength to have the land. If land in too high condition should be sowed to barley, and a wet, warm summer, should happen to follow, the result would probably be only half a crop, because in all likelihood it would lodge and take a second growth. Land in good medium condition—say after a crop of corn or potatoes which has been manured with unfermented manure—is well adapted to the crop. Let it be merely ridged up in fifteen feet ridges in the fall, and as soon as the land is dry in the spring, let a double or even a single-horse cultivator be run through it. Sow the barley on or as near the first of May as the weather will permit, and harrow the ground thoroughly, and in nine cases out of ten the crop will be good. ANDREW WILSON.

Prescott, C. W.

LETTER FROM JOHN JOHNSTON.

Eds. Genesee Farmer:—I am feeding five hundred sheep this winter. They are fat now. Am feeding largely of oil-cake meal, as usual. I also feed eleven good cattle, with which I have been experimenting a little, and have some facts put together, which are at your service.

Fact First.—I bought six steers, over five years old, in fair condition, that had never been fed either roots or meal of any kind. I put them to hay and meal November 23d, their weight then being from 1,175 to 1,370 lbs.—averaging 1,257. Weighed at the end of thirty-five days, and found an average increase of *seventy-four* pounds, but the two largest ones *ninety* pounds each, and the two smallest only gained *fifty* and *fifty-five* pounds each, though to the eye they appeared to have made most fat. A gain of ninety pounds in the first thirty-five days stall-feeding, seems incredible, but such is the fact. I have long been aware that the largest cattle pay best for good feed, either in summer or winter, but was not prepared to find such a difference. They were all fed alike, and in stalls, so that each got the same quantity of meal.

Fact Second.—I put up two steers, rising of four years old, quite fat, grade Devons, weighing at the time 1,150 and 1,220 lbs. Gain in thirty-five days only *twenty* and *thirty* lbs., the smallest gaining least. From this it would appear that it is unprofitable to feed cattle after they are really fat.

Fact Third.—I put up two steers, rising of four years old, and lean, but good common stock, weighing when put up 1,180 and 1,300 lbs. Gain in thirty-five days, 62½ and 75 lbs., the smallest gaining least. I also put up a heifer, rising three years, weight 1,025 lbs. Gain in thirty-five days, 55 lbs. She is of fine bone and horn, long in the body, broad on the loins, grade Durham, lays on fat very fast. There was no Durham or Hereford blood in any of the others. I should be pleased to know if any of those aristocratic breeds put on over *ninety* pounds increase in the first thirty-five days of stall-feeding.

Fact Fourth.—I have found that cattle fed on hay and meal, and weighing from 1,230 to 1,460 pounds, if weighed at four o'clock P. M. and then shut up from food and water until next morning at eight o'clock, will shrink from 45 to 50 pounds. This is much more than I expected. I find that sheep weighing from 120 to 130 pounds, shut up the same length of time, shrink only three pounds. This is less than I expected. I intend to weigh again at the end of thirty-five days, and if offering anything worthy of note, you shall hear of it.

Near Geneva, N. Y., Jan. 7, 1859. JOHN JOHNSTON.

A WORD MORE ON BARN-YARDS.

Messrs. Editors:—The comments of "B." on a short article in the July number of last year, on the construction of barn-yards, has once more "stirred me up to the subject." He stated that he would not then attempt to give a better plan. Thinking that he might do so at some future time, I have deferred writing, waiting to see what might be offered; but as nothing has appeared, I have concluded to add a few more words on the subject myself.

The plan proposed was to make the yard in such a manner that no water could run out of it. The objection was, it would not be practicable; but if so, would be too wet and miry. With a small yard, and buildings without conductors at the eaves, or if water from the surface of the ground adjacent should run into it, the objection would be a good one; but these circumstances are not generally beyond the control of the farmer. As our ideas extend on this subject, why not extend, if necessary, the area of the yard? Move back the fence and straw-covered sheds, and make sufficient room, so that the large basin in the center or at one end will not incommode either man or beast. The buildings should be spouted, and water on the outside prevented from running into the yard. Then what falls directly from the clouds into it would be absorbed by the strawy portion of the manure or run into the hollow of the yard. The main part of the yard should be nearly level, but with sufficient inclination toward the center, so that the surplus water would settle into it. If the soil is sandy or porous, the reservoir should be bedded with stone and clay. A yard constructed in this manner would not only save that rich portion of the manure which is so frequently lost, but it would also be far more comfortable for stock than one where, in a rainy time, the water, doubting which way to go, runs about, forming dirty puddles all over the yard, but finally "clears out," taking, like a thief, what don't belong to it.

The writer has no model yard as yet, but he intends to make one before long; and if at any time, when crossing it, he should sink, legs, body, and arms, up to the chin, as he gazed around upon the hungry upland he would consider himself on the pinnacle of hope rather than in the "slough of despond." Such a catastrophe would give one some idea of the amount of manure in store, and of the value of one's individual self as an article in the world of manures. After due reflection, and having fully defined his position, he would halloo to the boys to come and cart him out; and wherever he might roll and shake himself, there would no doubt be luxuriant crops for many years to come.

When a yard is small, and can not be enlarged on account of permanent sheds, a reservoir should be made on the outside. It should be water-tight and covered. In it should be placed absorbent earth, which, when saturated with the liquor of the yard, would be excellent manure. Draw out and replenish as often as circumstances require. Without the earth, the contents of the pit might be drawn out and distributed over the fields by a watering cart. Where loam or muck could be obtained, without drawing it too great a distance, I should prefer the former course. It may be said by some that such a practice is attended with considerable labor and expense. It is true; but I believe it would pay. In no branch of their business do farmers practice more false economy than in the management of their manure. All concede its value, high praise is bestowed upon it, "it is the life of the farm," "an inestimable treasure," "a gold mine." But "what's in a name?" Manure without the essence is like a man without principle—of little use for any place. If farmers in this section would raise money on the end of wheat straw, they must not only sow an early variety of wheat, but they must sow it early, and also save and apply to the land that liquid and richer portion of manure which now so generally runs to waste.

Adams's Basin, N. Y. J. A.

LARGE vs. SMALL HOGS FOR FEEDING.

Editors Genesee Farmer:—An article in your November number of last year requests such of your subscribers as have tried both the large and small breeds of hogs, to give their experience in the premises. Having had somewhat of a costly experience, I give it for what it is worth; and if one farmer shall thereby be enabled to save what I have lost, I shall be amply repaid for the trouble of writing this article.

In the spring of 1855, I procured from Illinois some thorough-bred Suffolk hogs of the Stickney stock. This is the most popular breed of small hogs in the United States, and I confidently expected a rapid improvement in my hogs. Some of the half-bloods made fine hogs, but the three-quarter-bloods were beautifully less. The full-bloods raised were pretty little hogs, but *slow of growth*, and so very delicate that I lost more than half of them after they were weaned. Some got so badly frost-bitten that they died, some had the quinsy, and some died without any known cause.

In September, 1857, I had a litter of about 35 three-quarter-bloods. They were well housed, bedded with leaves, and, with the sows, had all the corn they would eat through the winter, and well fed through the summer, with the run of good clover pasture. Not wishing to be the laughing stock of the neighbors, I was determined to make something nice out of them. But they would neither grow nor fatten "*at any age.*" Last fall I slaughtered them the 15th of November, and the heaviest one would not weigh 100 lbs. nett. I am ashamed to make such a confession, but facts are facts. I will only add that they were better fed and cared for than any hogs I ever raised. Their whole history is a mystery to me. My conclusion from my experience with them is, that, being littered in the fall, and constitutionally very delicate, and having but little or no hair on them, they got so chilled through the winter that they could not recover. I had but thirteen out of the thirty-five to slaughter, as the balance died through the winter and summer. My only regret is that they did not all die when they were young. This breed having been established in a climate of much more uniform temperature (England), I suppose renders them unable to withstand the vicissitudes of our climate. Out of some four pairs brought to this county from different parts of the United States, I believe my experience has been as favorable as any. You can readily infer from the above that I was soon satisfied with the small breed of hogs.

Not discouraged, however, in the fall of 1857 I procured from Pennsylvania two pairs of Chester County Whites. From my trial with them, I am more than satisfied. To my mind, they are not only perfect models, but they possess that rapidity of growth and vigor of constitution so essential to the successful hog-grower. They fatten readily while quite young, and with me they will weigh as much again at the same age and on the same feed as any other breed. They will weigh, at eighteen months, with proper care, from 500 to 600 lbs. nett. I have before me the weight of three hogs of this breed, slaughtered on the 25th of December, 1857, as follows: No. 1, sixteen months and nine days old, 696½ lbs. nett; No. 2, sixteen months and seven days, 648 lbs.; No. 3, seventeen months and one day, 633 lbs. Aggregate, 1,977½ lbs.

Though this is a large breed of hogs, they are very far from being coarse. A coarse hog is to me like any other coarse animal, unfit to breed from. They are comparatively a fine, short-boned hog, very long in the body, broad on the back, with very short legs, head, and neck. With me they have been the admiration of all who have seen them.

When we consider that two-thirds of all the meat consumed in the United States is pork, and that the nicest care and judgment are necessary to make pork-raising a profitable business, we see the importance of securing the best breed of hogs; and I believe that it is the duty of those farmers who have tried the different breeds, to give their experience, unbiased by a disposition to make the most of a bad bargain. Then the careful reader will soon be able to select such a breed as will suit him. This question is much easier to settle than the horse and cattle question. In them there are so many qualities needed and represented, that often the best informed are at a loss which breed to select. Unlike them, the hog has but one purpose to fulfill, and that is to make the most meat out of the least feed. I have found the difference in feeding some breeds of hogs as high as 300 per cent.; and allowing for the poorest hogs as much as the most inveterate old fogy could claim, there is yet a difference too intolerable to be borne by any farmer—enough to break any manufacturing company in six months.

I am fully aware that others have raised fine Suffolks; but I believe that if the whole truth was known, three-fourths of them either died or turned out worthless comparatively. All of my correspondents who have tried Suffolks are dissatisfied with them. I have never been able to devise any course that would prevent the mange on them, while not one of my Chesters has been sick or had a crack on them. The reason I have said so much about the Suffolks is because they are the most popular of the small breeds and are the ones I have tried. From what I had seen, in the west, of the large breeds, such as the Woburn and Irish Grazier, I was prejudiced against them, being coarse, long-legged, coarse-haired, and heavy feeders; consequently I tried first the small breed, and with me they have proved *small breed* indeed.

As you remark, the cheapness of good pigs, and the ease with which they are propagated, renders the farmer inexcusable who neglects to improve his hogs.

H. L. BROWN.

Fayette, Howard Co., Mo., 1859.

REARING CALVES.

My method is this: Take them from the cow at two days old, and learn them to drink new milk. When they have learned well, mix a little warmed skimmed milk with the new, adding more and more until they will drink all skimmed, and that without warming. Then I add a little sour milk, and gradually increase the quantity until they will take all sour. This they will generally do by the time they are two or three weeks old.

I have temporary stalls in the calf-pasture, and a separate dish for each calf; so the hoggish glutton can not rob his more considerate and sensible neighbor. A little trouble, with gentle treatment, will learn each calf to know his stall as well as the "ox." There is another advantage in tying them up; it makes them familiar with confinement in the best possible manner. I think the stalls a decided improvement upon the long trough and club system, to admonish the more greedy that they have "had their share."

Many calves are over fed for the few first weeks, much to their detriment, in my opinion. I think one-third or one-half of the milk of an ordinary cow is ample feed for the first four weeks. The quantity should then be increased, until they take the whole of one cow's milk; and if you add more in the latter part of summer, all the better.

A calf fed with sour milk until fall, will show a decided improvement over the half-fed "runt" that was "weaned" at six weeks or two months old; and with equal good keep through the winter, the well-fed one will buy a baker's dozen of the lean ones, even if you succeed in getting them *through* the winter.

I consider uniformity in the quantity given, and punctuality in the time of feeding, of great importance in the successful rearing of calves.

I have tried letting a calf "run with a cow;" but that is poor policy, I think: for if you do not keep up high feed through the winter, you have a miserable-looking animal in the spring; and if you do, you have an overgrown beast of but little practical utility.

I have been awarded the first premium on native heifer calves twice, by the Jefferson County Agricultural Society," that were fed entirely on sour milk; and one year there was a very large competition. If any one can raise a better calf than I can, with less expense, let him tell how he does it.

Limerick, Jeff. Co., N. Y. E. MAYNARD.

UNDERDRAINING AND MANURING AT THE WEST.

In a conversation at Mendota, the editor of the *Genesee Farmer* asks: "Don't you think it would pay better to cultivate less land and more thoroughly, and even to underdrain and manure a little?"

Yes; we think it would. Our soil needs more thorough cultivation than it receives. Almost nothing has been done in the way of underdraining, which is vastly more necessary than manuring. To the western farmer, no subject is of more vital importance than *underdraining*. It will aid him in getting in crops early in spring, increase their quantity and worth, and in many instances double the actual tillable value of the land. Through the past season, almost every wheat and corn field has had some portion of wet land—too wet for the growth

of the crop. The labor has been bestowed—plowing, planting, sowing, cultivating, and harvesting,—and the reward has been a gigantic crop of weeds in wet places, where the largest amount of grain should have grown. Here there is a loss of labor, seed, and crop, for the want of underdrains. Better or more forcible arguments in favor of draining could hardly be offered than the repetition of such seasons as this has been. He who can not read in the condition of his soil in months past the necessity of carrying off surplus water, must be beyond teaching by examples of dire necessity.

As to manuring, land devoted to corn-growing gets pretty thoroughly manured. The stalks are seldom cut up; the corn is picked from the hill, and the stalks are left to the herds of cattle to be eaten and trampled into the earth. In this manner the supply of vegetable mold is kept up, and rather increases than diminishes, from year to year. But wheat, coming in for a liberal share in the rotation of crops, with us, removes all its product from the soil, and thus tends to impoverish it. It pays to manure for corn with common barn-yard manure; but the growth of straw is ample in wheat, unaided by any such stimulant. Having never seen any report of a trial of lime, salt, or any of the inorganic fertilizers, I am not prepared to speak in regard to them. It is the common opinion here that manure is not worth the saving, and straw is almost universally burned.

You are doubtless correct in the inference given in your question, that it would pay better to cultivate less land, and do it in a more thorough, workmanlike manner; at least, such is the opinion of

Amboy, Ill., Oct., 1858. W. H. GARDNER.

FENCE POSTS.

Messrs. Editors:—In the January number of the *Genesee Farmer*, I see an inquiry, by E. Morton, about fence posts, and without hesitation say that neither top nor bottom of wooden posts should be set in the ground. Nature never designed that wood should be inserted in the earth. Earth should come in contact with earthy material; and then there is very slow, if any, decay. I have thought upon this subject, and have experimented, and from the brick material I have cast and dried several fence posts 6 ft. long and 5 by 5 and 2 by 5 in. Owing to my not having the conveniences for burning, I have never burned any; but experienced men say that there is not the least difficulty, if a furnace is of sufficient height to have them stand on end during the process of burning. If the temperature is raised to the melting point of silex, the aluminum of the clay will be fused, and the carbon of the wood or coal will enter and form a substance as hard as the hardest stone—impervious to water and unaffected by time. Provision can be made, in the process of manufacture, to pass bolts through, the post, board, and cleet to be secured with nut and screw. Good boards put on in this way I think would last thirty to fifty years, and the posts for ever. A person having a sterile clay upon his farm, fit for no agricultural purpose, could make them as cheap as good wooden posts could be bought, or cheaper. If this is a new idea, I think that sooner or later it will be valuable.

Moscow, Liv. Co., N. Y. WM. LYMAN.

SHEEP RACK—RURAL ANNUAL FOR 1859.

Messrs. Editors:—In looking over the *Rural Annual* for 1859, I notice an engraving and description of a sheep rack, very good, but I believe that there is a better. The objection to this rack is the want of shelter for the sheep. According to the experience of numerous writers (given in the various volumes of the *Genesee Farmer*) and of myself, it does *not* pay to feed sheep in any kind of rack out of doors. Make the racks in any convenient mode, so that the hay will not get under the feet of the sheep; but be sure to have the racks, sheep and all, under good sheds; and there will be more wool and mutton, and less hay and grain necessary to its production.

The above is the only fault (if fault it may be called) in the *Annual* for 1859, saving and excepting the fault of being written on the plan of the celebrated Sam Weller's valentine. I assure you that I did "vish there vas more." As to the good qualities of the *Annual*, I can only say that they are "too numerous to mention;" and if it should be read by every man, woman, and child, in the State, it would only be doing the good which it was intended to do. D. A. A. Nichols.

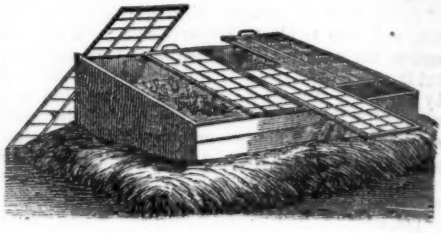
Improvement of Sheep.—Your correspondent J. C., on the 19th page of the January number of your excellent paper, says: "As far as my experience goes, the most profitable sheep are of no breed. Buy poor and inferior ewes," &c.; and sets forth the doctrine that in cross-bred sheep the first cross is the best. Some years ago, I commenced the use of Leicester bucks, obtained from the excellent flock of J. Broady, with my common ewes, with the following results. As a rule, the best ewe brought the best lamb; and as I went on from year to year, the lamb which had the most Leicester blood was the best. Now I have them that will compare favorably with many called thorough-bred. According to my experience, if you wish a flock of good mutton sheep, get the best common ewes, use good Leicester bucks, avoid in-and-in breeding, pay no attention to the old maxim that the first cross is best, shelter and feed well, and proper time will accomplish the object.—W. H. H. Ellsworth, *Woodville, Jeff. Co., N. Y.*

Salt as a Manure for Wheat.—A correspondent, referring to our account, in the last volume of the *Genesee Farmer*, of the experiment of John Johnston, where a barrel of salt per acre, applied at the time of sowing, had a very beneficial effect on wheat—causing it to mature so early that the midge did it little injury—asks whether it would be likely to do as much good when applied as a top-dressing in the spring. *We think not.* The action of salt, probably, is as a solvent of fertilizing matter in the soil; so that it would be desirable to mix it with the soil, and apply it as early as possible. On poor land, salt would not be likely to do much good, sown either in the fall or in the spring. We hope our correspondent, however, will make the experiment.

HORTICULTURAL NOTES FOR THE MONTH.

No farmer who pretends to have a garden should be without a hot-bed. It is easily made, and needs only a little care and daily attention to manage it successfully. It should be placed in a dry situation, exposed to the east and south, and protected by buildings or fences on the north and north-east. A hole should be dug two feet deep and a foot larger each way than the frame. The manure (horse-dung is best) should be placed in a loose heap to ferment a week or so before being placed under the frame. Then work it over, carefully mixing it, and place it in the pit, beating it down well with the back of the fork as you proceed, but do not tread it down, as it will heat more in one place than another. If compressed too much, so as to exclude the air, it will ferment slowly, and give out little heat. If too loose, it will ferment rapidly, and be too warm at first, and will soon get cold. The richer the manure—*i. e.*, the richer the food given the animals—the more readily will the manure heat. If the manure is too dry, water it with the drainage of the stables. This, blood, or any animal substance (except fat) will act as a ferment. All nitrogenous substances in a state of decay possess the power of inducing fermentation in non-nitrogenous substances,—substances which of themselves will not ferment. All animal matters, and especially those which are soluble, can be used to great advantage in regulating the heat of hot-beds. Where there is plenty of horse or sheep dung, however, there will be no need of anything to induce fermentation.

Heat is favorable to fermentation, and it is well to put the frame on the bed as soon as it is made. A frame nine feet long and six feet wide, with three sashes, as shown in the annexed engraving, is a convenient size. Shut it down close, but do not exclude the light, and cover well at nights. In a few days the bed will be quite hot. The gases eliminated at first are rather injurious to plants, so that the soil should not be put on the bed till all rank smell has ceased. Then cover the bed three or four inches deep with light, rich, garden soil. Under the center of each sash place about a bushel of light, rich mold, making a heap about nine inches deep. When this is warmed through, sow a few seeds of cucumbers in each hill, about half an inch deep. Thin out the plants, leaving three of the strongest in each hill. When the roots protrude through the hill, cover them with light soil previously warmed in the bed. Water, when dry, with water the temperature of the bed. This should be about 60° at night and from 75° to 85° during the day, with sun. Ventilate, by letting down the sash a few inches on all favorable occasions. Fresh air and light are as important as heat; but be careful that no cold wind blows on the tender plants.



HOT-BED.

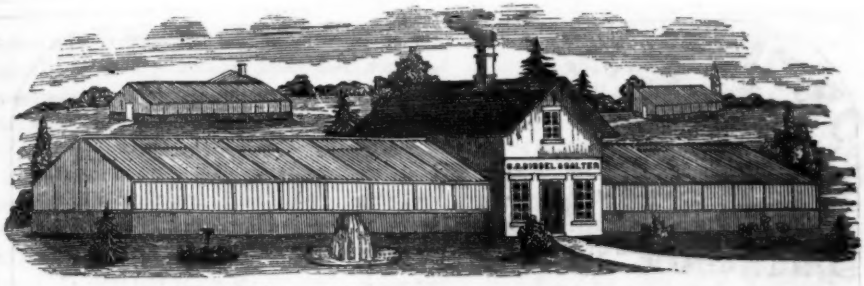
A few seeds of tomatoes, celery, egg-plant, &c., may be sown in boxes and placed in the bed, where they will get a good start before they are in the way of the cucumbers. They should be removed to a cold frame and hardened off before planting in the open ground.

Another bed can be made and managed in the same way, for a few early lettuce and radishes. The soil for these should be six inches deep. A little mustard and peppergrass may be sown to use before the lettuce are ready. In about a week, the mustard will be three inches high; when it has two leaves, it is fit for use. For all these seeds the soil should be very fine. Sow them on the surface, and then sift the soil over them—covering the lettuce about the eighth of an inch and the radishes a quarter of an inch deep.

If the bed is too cold, place some hot manure round the frame, covering it with boards.

Little can be done in the open ground, this month, except spreading manure on vacant land ready to be spaded in as soon as the frost is out and the soil is sufficiently dry.

Rhubarb can be easily forced by placing an old barrel, with the ends out, over a plant, and then banking it round with warm manure about two feet thick. Forced in this way, it is deliciously tender. The top of the barrel should be covered at night and on cold days.



PROPAGATING-HOUSE OF C. P. BISSELL & SALTER, ROCHESTER, N. Y.

New beds of rhubarb should be made as early as possible. Plant in a single row, from three to four feet apart, according to the variety. The soil can not be made too rich. The root should be set so that the crown will be about an inch below the surface. We have used Peruvian guano, applied in solution, to old rhubarb beds, with remarkable success.

An asparagus bed should be five feet wide; four rows one foot apart and plants nine inches apart in the rows, set two inches below the surface. The soil should be trenched, and heavily manured, three feet deep.

Raspberry beds may be made as soon as the ground is in working condition. A light, rich, deep, loamy soil, suits them best. The finest raspberries we ever saw, were on a very deep, rich, naturally moist, but *thoroughly-underdrained* and deeply-trenched soil. Set four plants in a hill and the hills four feet apart. Cut them down to within a foot of the ground, and prevent them from bearing fruit the first year by pinching out every flower as it appears. Drive a stake in the center of each hill, and tie the young canes loosely to the stake as they grow.

Let everything be done this month that will facilitate future operations. But there is nothing gained by working the soil when it is wet, or sowing seeds when the soil is too cold for them to germinate.

In cold graperies, toward the end of this month the vines will show signs of bursting. Retard them as much as possible, by keeping them shaded and the house ventilated on all mild occasions.

Trees for the Prairies.—The Illinois Agricultural Society has awarded a premium to L. H. Thomas, of that State, for a grove of timber trees. The seeds of the trees were planted on new ground in 1852, '3, and '4; and many of the walnuts, oaks, and maples, are now twenty-five feet high, very thrifty and growing.

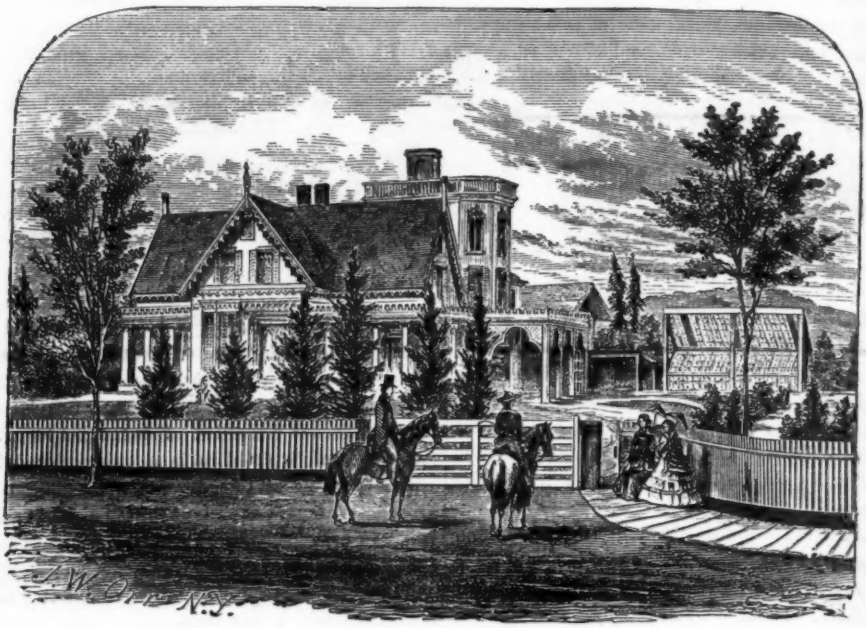
A BEAUTIFUL PROPAGATING-HOUSE.

One of the best and most substantial propagating-houses we have ever seen, has recently been erected in this city, by Messrs. C. P. Bissell & Salter, of the East Avenue Nurseries. It is 105 feet long, 24 feet wide, and is fitted up in most superior style, with a complete set of flues, hot-water pipes, and propagating tanks; the whole costing about $3,000. It is now principally devoted to the propagation of hardy native grape vines, embracing all the new and most valuable varieties; their collection numbering upwards of fifty sorts.

We have great pleasure in presenting our readers with an excellent engraving of this model propagating-house. It is well worthy of a visit. Messrs. B. & S. are experienced fruit-growers, and well deserve the patronage they enjoy. They take great pains to test every new variety of grape, and recommend none that will not be found worthy of cultivation. They are gentlemen of great skill, intelligence, and reliability; and we can not but rejoice in this new evidence of their prosperity.

Seed Potatoes from the South.—A correspondent of the London *Gardener's Chronicle* says that a farmer in Cornwall, where large quantities of early potatoes are raised for the London and Birmingham markets, procured some seed potatoes from Portugal, "and from them obtained potatoes a fortnight earlier than from any other sets." Some of our gardeners, with whom it is an object to get early potatoes, may take advantage of this hint, and procure seed potatoes from the South.

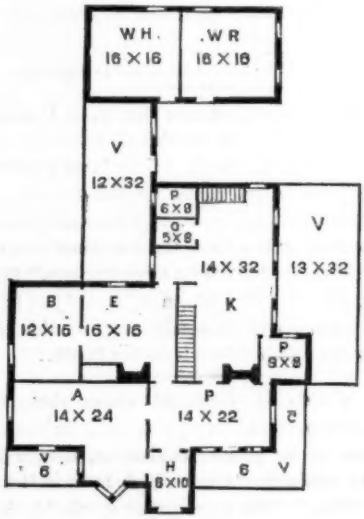
The *California Culturist* states that "the *British Queen* strawberry proves thus far the very best with us for general cultivation, though it is far from attaining the same high rank in the Atlantic States." The same paper speaks highly of the *New Rochelle* or *Lawton* blackberry, but thinks the *Dorchester* or *High Bush* fully equal, if not superior.



RESIDENCE OF JOHN A. NICHOLS, ESQ., SPENCER, TIOGA COUNTY, N. Y.

A COUNTRY RESIDENCE.

THE accompanying elevation and plans will give the reader a very good idea of the residence of JOHN A. NICHOLS, Esq., of Spencer, N. Y., with a view of his greenhouse contiguous thereto.



MAIN FLOOR.

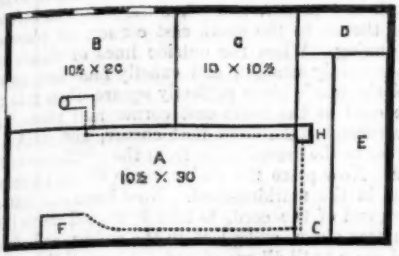
In the plan of the main floor, the hall is shown at H, the parlor at A, dining-room at D, kitchen at K, family-room at E, with bed-room (B) off from it. P, P, represent pantries; C, closet; W H, wood-house; W R, wash-room: V, V, V, V, verandahs. Other parts will be readily understood in connection.

SECOND FLOOR.

The second floor, as shown in the plan, is conveniently divided by the hall, on each side of which are conveniently arranged parlors, sleeping apartments, and closets, with stairways to attic and observatory. Over the large parlor (14 by 19) is another room of same size; the whole forming a very neat and convenient residence.

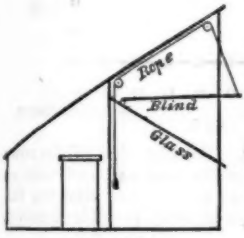
The building in which the greenhouse is situated is thirty feet long by twenty-one feet wide, with

shed roof, and stands facing the south. In the back or low part are partitioned off two rooms. The outer one (10½ by 20) is used as a shop, and the inner one (10½ by 10) as a cellar or store-room.



PLAN OF GREENHOUSE.

In front, occupying 10½ by 30 feet, is the portion devoted to the greenhouse proper. The greenhouse portion of the building is sunk two feet below the surface of the ground, walled up with brick to the surface, and filled with proper soil for border, &c. The house has in front twelve perpendicular sash, three lights wide and four high, of 8 by 10 glass. Every other sash is hung with hinges, so as to open. The top sash are stationary, same size glass, and all of double thickness. The novel part of the structure is the roof and blinds. The roof covers the whole building, extending to a plumb line with the front of the greenhouse. The blinds, twelve in number, are made of siding, dressed, matched and fastened upon three cleets, and hung with strong hinges at the upper or back end. These, when let down, make a complete covering for the glass roofing, making an easy and quick means of shading in summer, and a great saving of fuel in winter. The blinds are readily raised and lowered by means of a cord passing over pulleys, as shown in end view.



END VIEW.

At the east end of the greenhouse is the propagating-house, E, which is eight feet wide and twenty-one feet long, the ground excavated three feet below the surface, and walled up as in the greenhouse. The glass roof is stationary, except two sash, which are hung with hinges to open back upon the stationary glass, forming a door for filling or cleaning the bed, as well as to admit fresh air. The heating is done by a brick furnace placed at F, the flue of which is shown by dotted lines, and enters a perpendicular chimney in the propagating-house at C. This flue continues from the top of chimney at C, over the door leading from the greenhouse to the propagating-house, and enters the main chimney at H. There is also another brick flue, as shown by dotted lines, at the back of the greenhouse, which enters the chimney about six feet above the floor of the greenhouse, at H. The pipe from stove in shop enters this flue, by which all the heat is saved to the greenhouse.

This greenhouse has now been in use three winters, without injury to a single plant by frost, and no fires have been built later than nine o'clock at night. In the coldest weather, some large sticks of four feet wood are put in and the furnace closed, and in the morning the temperature has never been lower than 40° and not above 50°.

This house was built by the day, and cost not far from $300, and answers every purpose of a more costly structure.

RAISING WATERMELONS SUCCESSFULLY.

Eds. Genesee Farmer:—I have been a subscriber to the *Genesee Farmer* since the commencement of Volume III, and have gained many valuable hints therefrom. I saw an article in Vol. VI, relative to raising watermelons successfully, which I have followed, and it has paid me for the *Farmer* ever since, in having plenty of good melons to enjoy.

I dug a trench about two and a half feet deep and about the same in width, filled it with horse-manure in a heated state, stamped it down hard, and then put back the earth, mixing well therewith a few loads of sandy loam, and planted my seed. I had some boxes made of boards, six or eight inches high, covered with millinet, muslin, or other thin, open cloth, to keep off the striped bugs, which are so destructive to melons.

I succeeded beyond my expectation, and have used the same ridge for years.

In the spring, I dig out the earth and rotten manure, fill the same trench as before, throwing back the same earth and rotten manure, thoroughly mingled; and if it needs more sand, add a load or so, mixed with the earth. The ridge will grow better every year. Hoe well and water properly, and a good crop may be expected.

Marcellus, N. Y., 1850. LAUREN BEACH.

Cultivate a Taste for Horticulture.—Prince De Ligne well says:

"I would inspire everybody with my taste for gardens and gardening; for it seems to me an impossibility that this taste can take possession of any one who is bad. All the virtues will find a ready and congenial soil in that heart which has developed this taste, and loves to *talk* and *act* horticulture. Fathers of families, innoculate, if possible, your children with the gardening mania."

CULTIVATION OF THE GRAPE.—No. 2.

LAYING OUT THE VINEYARD.

The ground having been properly prepared (by harrowing, cultivating, or raking, as circumstances may suggest,) in the spring, as soon as the frost is out, and the ground in good working order, that it may be made as smooth and even as possible, the next thing to be considered will be the marking out the proper places where the vines are to be planted. Some difference of opinion exists among planters as to the proper distances the vines should be planted. The prevailing opinion is that four by four feet is the proper distance, where tied to poles. Some plant three by four, three and a half by four, three by five, and four by six, and all other distances, as fancy may dictate. But four feet each way is the commonly adopted distance in this country for the *Catawba* and *Isabella*, and is believed to be the best, where trained to stakes or poles. In France, I have seen some excellent vineyards planted two by four, three by four, four by four, and six by twelve; and all seemed to do remarkably well. Those planted two by four were allowed to grow where they listed; they had no stakes, and received very little pruning, but spread all over the ground, and completely smothered the weeds. They bore a great crop of excellent grapes, and, after the fruit was gathered, were pruned back to a mere stump, and the prunings left on the land and buried in the soil with an instrument something like a two-pronged hoe, called a *crotchet*. It is a very slovenly way; and how long the vines would continue to be fruitful, I can not say. Those planted three by four and four by four were carefully tied to stakes about three feet high out of the ground, and carefully pruned and trained. Those planted six by twelve, were trained to espaliers about eight feet high, running east and west. Those grown on the espaliers were of the *Chasselas Fontainebleau* variety, and produced some of as fine fruit as I have ever seen, of the same variety, grown under glass in this country. The *Muscat of Alexandria* ripened exceedingly well on the south side of a house; but 1847 was a first-rate fruit year in France. The soil was a deep, gravelly loam, with a great deal of lime rock, and gypsum was seen in almost every broken stone.

Having decided on the distance the vines are to be planted apart, the next thing is to lay the ground out as nearly square as possible. Then prepare a number of little stakes, sharpened at one end; and if four feet apart each way be the distance, it will take about two thousand seven hundred to the acre. These are best prepared by taking a straight-grained pine board, one inch thick, and sawing it into lengths of about eighteen inches, split it into strips half an inch thick. These being white, will be better than any others in sighting the rows through, and can be prepared in the winter or on wet days. Now take a good line, long enough to reach across the entire vineyard, and insert into it little pieces of red tape, at exactly four feet apart, the whole length. This is called the marking cord. Now, the cord and the sticks being ready and the ground squared, fasten the cord at the south-east corner, and draw it to the south-west corner; strain it tight and fasten it. Then have one or more hands to place in the sticks *exactly* at these little bits of tape in the cord; set them upright, and, when placed, sight them through, to see if they are straight. Now take up the cord at the south-east corner, and carry it to the north-west corner; strain it tight, and place in the stakes, as before. Then proceed from the north-west corner to the north-east corner, and place the stakes as before; and thence to the south-east corner, or place of beginning. When the outside lines of stakes are set perfectly straight, and exactly four feet apart, and the whole piece perfectly square, then take up the cord at the south-east corner and place it at the second stake from that corner, and stretch it across to the second stake from the south-west corner. Now place the stakes again at the pieces of tape in the marking-cord. Now have one man at each end of the cord, to take it up and move it to the next stake, and place in the stakes, as before; and so on until all are placed. When all the stakes are set, sight them through, to see that they are in straight rows every way. It is necessary that the stakes stand in perfectly straight lines; for nothing gives more pleasure to the nice vine-dresser than to see the vines standing in their exact places; and nothing looks more unsightly than to see them planted all over the place, as though they had grown there by accident. Fig. 2 will fully illustrate

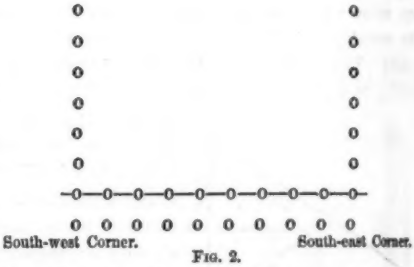


Fig. 2.

this mode of marking. The direction of the rows should be north and south and east and west, as nearly as possible, so as to give the vine the full benefit of the sun's rays in every possible direction.

PROPAGATION OF THE VINES.

Having thus described some of the best modes of preparing the soil and marking off the vineyard, I will now endeavor to explain how the vines may be propagated and multiplied.

Grape vines are propagated from seed, by buds or single eyes, cuttings, layers, grafting, inarching, and budding.

It is to be presumed that no one will attempt to plant out a vineyard from seed—the chances of getting a good one are too few. The grape vine is so liable to degenerate when raised from seeds saved promiscuously, that to get one really good one to every ninety-nine poor ones, is a very good proportion. More may be expected from half a dozen carefully hybridized seeds, than from a hundred accidentally saved.

If any one is desirous of raising new varieties from seed, he had better spend a little time in hybridization. As the young seedlings are most

likely to partake more of the constitutional character of the female parent than of the male, perhaps the best varieties to experiment upon, to produce a black variety, would be the *Isabella* or the *Concord* for the female parent, fertilized with the pollen of the *Black Hamburgh*; and the *Diana* or the *Delaware*, fertilized with the *Rose Chasselas*, for a red; and the *Rebecca*, crossed with *Golden Chasselas*, for a white. These seedlings would be most likely to partake of the hardy constitution of the natives, and of the fine flavor of the exotics. As the foreign varieties will almost invariably have to be grown under glass, they will be most likely to come into bloom before the native varieties out of doors; and to ensure those to be operated upon expanding their flowers at the same time with the exotics, it will be necessary to have some of the native varieties grown in pots, that they may be moved into the cold grapery early in the spring, or protected with a temporary glass structure.

As the hybridization of the grape vine is rather a nice operation, it will require some close attention and watching to catch the flower just before it expands. The corolla should then be removed, the anthers cut away, and the stigma fertilized with the pollen of the exotic variety. If, on cutting away the corrolla, it is seen that the anthers have burst, the whole flower must then be cut away, as it is most likely it will have fertilized itself by its own pollen, and will frustrate the whole operation. One or two bunches on a plant, and these thinned out one-half, will be enough to attend to at a time.

Eyes.—The native varieties are very readily multiplied by single eyes. An eye is a small portion of the one-year-old wood, having but one bud. In the month of February or March, take one-year-old, well-ripened wood, and cut it into as many pieces as there are well-ripened buds. Cut the eyes one inch above the bud, and two inches below it, as in fig. 3. Then take cutting-pans or boxes, four inches deep, and of any size to suit convenience, and put in about one inch of broken charcoal or potsherd, or anything rough and loose, for drainage, and over that a thin layer of moss, or the siftings of leaf-mold, to keep the drainage clear, and then fill to within half an inch of the top (pressing it pretty firm with the hands) with finely-sifted leaf-mould from the woods, and lake sand, if it can be had—if not, any fine, light, rich earth, that is very porous, will do; about one-fourth sand will be the right proportion. Then press the cuttings into the soil up to the bud, in a somewhat slanting direction, and about one inch apart, keeping the bud uppermost, and just above the soil. The bud must not be buried, as it is very apt to rot. They should then be placed in a temperature of about 60° by night and 75° to 80° by day, and carefully attended to for water. The soil should be kept just moist, and they will nearly all grow. When they have rooted, they will have to be potted off singly, or be planted out in the open ground if warm weather. If the weather should prove dry at the time of planting out, it will be necessary to give them some water; but when water is applied, give them a thorough soaking, that the water may soak to the extremities of their roots. Merely wetting the surface, does as much harm as good, by causing it to bake and crack.

Fig. 3.

Cuttings.—What is commonly called a *cutting*, is a piece of the last year's wood, from one foot to eighteen or twenty inches in length, containing several buds, as seen in fig. 4. As soon as the ground is in good working order in the spring, the cuttings should be planted. Choose a rather sandy piece of ground, and stretch a line across it. Then dig a trench the depth and width of one spade, and carry this earth to the opposite end of the bed, to fill in with at finishing. Now dig across the bed again, throwing the earth up to the line, and make it level and smooth with the spade. Now set the spade perpendicular, and back up to the line and thrust it into the ground to the depth of two-thirds the length of the cutting. Then draw the spade toward the bed, and from the line, bringing with it the soil, and leaving a perpendicular bank immediately beneath the line. Now place the cuttings in an upright position against this bank, about six inches apart, and about two-thirds their length in the ground, leaving one or two buds above ground. Now place the loose soil up to the cuttings with the spade, and tread it up to them firmly with the foot, setting the foot only once in a place, and right across the row. Now dig it all level and smooth for a distance of fifteen or eighteen inches from the row, and move the line and make another. Should the ground be rather stiff or clayey, it will be well to put into the trench, immediately upon the heels of the cuttings, about two inches of light sandy soil. This will induce them to root more easily. Decomposed vegetable mould and sand is best for this purpose, if they can be had. Should the weather prove hot and dry before the cuttings have rooted, it may be necessary to give them some water, or a shading with some light, littery straw, or both, as circumstances may suggest.

Fig. 4.

Layers.—Layering is the bringing down of a branch from an established plant, and burying it in the soil while yet connected with the mother plant. Fig. 5 will fully illustrate this.

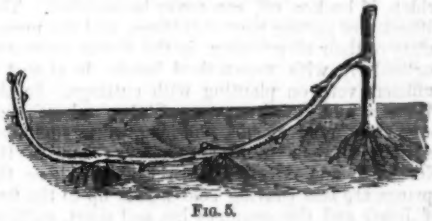


Fig. 5.

The best time for layering the grape vine, is in the latter part of June or beginning of July. Take a young branch, and bring it to the surface of the ground. Lay it where it is wanted, and peg it there, if need be. Then cover it with light, rich soil, to the depth of three inches, and the whole length of the branch, leaving the end and all the leaves and small laterals sticking out. By fall it will be well rooted all the way up the stem. It may then be taken up and divided into as many

pieces as there are buds with roots to them, and each will make a plant.

GRAFTING, BUDDING, AND INARCHING.—Although the grape vine may be multiplied by each of these methods, it is so much more readily propagated by eyes, cuttings, and layers, that the former methods are seldom resorted to. But it may sometimes happen that a person has an old stock of a poor variety, standing in a place where he desires it to remain, who wishes to cut it down and graft on it a better kind. If the grape vine be cut down and grafted early in the spring, or just before the buds begin to start, it is liable to bleed so profusely as to dislodge the scion. It is, therefore, better to wait until after it has begun to grow, and made shoots eight or ten inches long, and leaves as large as a silver dollar. It may then be cut down to within two inches of the ground, and the stump split with a chisel or large knife, and a scion of the desired variety pared down in the form of a wedge and inserted into the split in the stock, so that the bark of the scion will come in contact exactly with the bark of the stock, or a union will not take place. It must now be bound tightly round with waxed cloth, so as to exclude air and water, and then earth heaped around nearly to the top of the scion, leaving one or two of the buds out. Fig. 6 will illustrate it. If waxed cloth can not be had, then bind the graft nicely over with basswood bark or worsted yarn, and cover the whole with a lump of wet clay, as large as a duck's egg.

FIG. 6.

Inarching and *Budding* will seldom or never be wanted for the propagation of the native varieties of the vine; therefore they are hardly worth describing here.

PLANTING.

There is a difference of opinion existing among planters as to whether cuttings, or one-year, two-year, or three-year-old rooted plants are the best. Those in favor of cuttings contend that they become rooted in their permanent place, where they are to grow; and that the mutilation of their bottom roots, consequent on removal, is thus avoided, which, if broken off, can never be supplied. The difficulty of getting proper cuttings, and the uncertainty of their all growing, in the Northern States, particularly with unpracticed hands, is almost a sufficient veto on planting with cuttings. In the Western and South-western States, where they have early, mild springs, and long, warm summers, cuttings may be more satisfactory; but in the Northern and North-eastern States, where the springs are late (having cold nights up to the first of June) and the summers hot and short, cuttings are not so sure.

A cutting, for planting at once in the vineyard, should be a portion of wood taken from the base of a cane of the first growth of the present season. It should be round, short-jointed, four or five buds in length, well ripened, and cut with a small portion of wood of two seasons' growth at its heel. Such cuttings, if properly managed, will rarely fail. But, few persons will like to cut their vines back so as to spoil the spurs, which should be saved for fruiting another year, for the sake of getting a few cuttings. Cuttings of the second growth, or of pithy, unripened wood, are unsuitable. What is wanted, is an early, healthy, vigorous, and even growth, that the vines may become well established and well ripened the first year; and how can this be attained better than by one or two-year-old, well-rooted and well-ripened, healthy plants?

If it be decided to plant with cuttings, as soon as the ground is in good working order, early in the spring, place the spade perpendicularly and back up to the little marking-stick where the vine is to stand. Then drive the spade into the ground to its full depth, without disturbing the marking-stick, and pull it forward, bringing with it a spadeful of earth. This leaves a little perpendicular bank, the width and depth of the spade. Now place two cuttings close up to the bank, two inches apart, one on each side of the marking-stick, and deep enough to leave one bud half an inch above ground. Now fill the hole with nice, fine earth, (decomposed leaf-mold from the woods, with one-fourth clean, sharp lake or river sand, is the best that can be had for the purpose of planting either the cuttings or plants in,) press it firmly up to the cuttings, and make it smooth on top. Give one good soaking with water, to settle the earth to the cuttings. As soon as bright sunny days begin to set in, it will be better to shade the cuttings by sprinkling over them a few loose straws, short grass or hay, to protect them from the scorching rays of the sun. Should there be continued hot, dry weather, they may require a second or third watering; but when watered, give them a good soaking, that will soak to their very bottoms.

Fig. 7 represents the cuttings as they appear when placed up to the little bank left by the spade. *a* shows an imperfect cutting, made from pithy and unripened wood; *b* is a good cutting, made of well-ripened, solid wood, with a piece of two-year-old wood at its base. There should always be two cuttings planted at a stake. If both grow, one must be cut away, or carefully taken away without injury to its roots, for the purpose of filling up any place where both may have died.

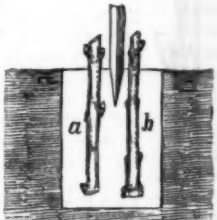


FIG. 7.

If good, healthy, one or two-year-old ready-rooted vines are used, there will be one year saved, at least, with the additional advantage of having them *all grow alike* all over the vineyard. But as the rooted vines cost more money than the cuttings, some may object to the extra expense, and think it preferable to purchase the cuttings, and either plant them at once in the vineyard, as advised, or in a nursery-bed, and prepare their own plants a year beforehand. So it would be, if the planter were *sure* that all his cuttings would grow; but as it is very difficult some seasons, for an unpracticed hand, to make cuttings grow, I do not think, taking into consideration the vexation of losing some of the cuttings, and the loss of time, there would be much saved. If plants are chosen, there are none better

(perhaps none so good) than one or two-year-old plants, grown from single eyes. Their roots all issue from one base, and can be more readily spread out and nicely planted at one depth, and in less time, than those grown from layers or cuttings, whose roots issue all the way up the stem. And they would seem preferable, too, from their whole force and energy being concentrated in one bud from the beginning, to those whose substance is divided among several, as in cuttings from the nursery-bed. But as the native varieties are more commonly propagated by cuttings or layers, it may be difficut to get them from eyes; and in that case the former will require a little more care in pruning and planting, and may ultimately be just as good. Before planting, the vines must all be carefully examined; and if there be any mutilated roots, they must be carefully cut away with a sharp knife, and trimmed and pruned back to the lowest good, plump, round bud above their *upper* roots; and those from eyes, to about *eight inches* above their roots. While this is being done, care must be taken that the roots are kept moist, by shading with wet cloths and straw, and watering, &c; for if allowed to dry and shrivel, they will start unevenly, and some of them may die altogether; but if carefully managed, there is no occasion to lose one of them. When ready for planting, prepare, with a spade, all the holes first—if for plants from layers or cuttings, about a foot square and a foot deep; and if for those from single eyes, a foot square and eight inches deep. Make the holes square up to the stake, so that the plant may stand right in front of it. Lay the soil out of the hole on one side of it, and on the other side about two shovelfuls of nice earth, as recommended for planting cuttings in. When all is ready for planting, take a few plants at a time, to be exposed to the sun and wind, and begin at one corner and plant one whole row first, and then another, to avoid trampling as much as possible. Put about two inches of the compost into the bottom of the hole; spread it level, and set in the plant; spread its roots out in their natural position, as near as may be; then fill in the rest of the compost, pressing and shaking it beneath and between the roots as much as possible; then fill the hole up level, leaving one bud just above the surface. When planted, give one good watering; and shade as advised for cuttings, if hot, dry weather.

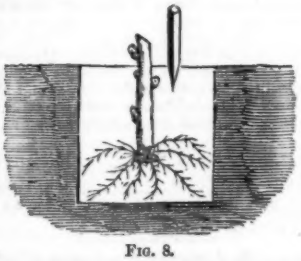


Fig. 8.

Fig. 8 represents a plant grown from a single eye, with the roots all at its base; and fig. 9 a plant grown from a cutting or layer, with its roots all up the stem.

The marking-stakes should be left in their places the first year, as a guide and protection to the young and tender vine; for the buds are so brittle when first starting to grow, that the least touch may break them off.

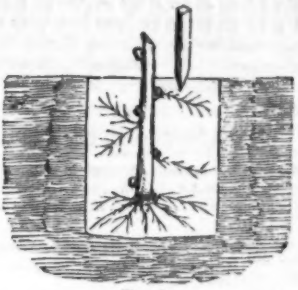


Fig. 9.

All that remains to be done, is to keep all kinds of animals out of the vineyard, and to avoid trampling and walking about as much as possible. Let the ground be stirred two or three times during the summer with the cultivator or hoe, to keep down all weeds, &c. The vines may be allowed to grow at will during the first summer; very few will ever get broken by the wind, &c. After they have grown a foot or so, and are lying on the ground, they should be trimmed to one cane, and the small laterals produced on the main cane should be pinched back to one leaf.

Rochester, N. Y., Feb'y, 1859. JOSIAH SALTER.

Early Vegetables.—Many persons wishing early vegetables, sow the seed in crocks or boxes, and start their plants quite early; but their early growth is nearly lost in transplanting. Let them try the following method:

Take a flat box, and fill in an inch or two of earth; then take flat or English turnips, scrape out the inside of as many as you wish hills of tomatoes, cucumbers, cabbage, or lettuce, place them in your box, fill in and around with rich earth, and sow a few seeds in each. Keep in a warm room, and water occasionally. When you plant them, cut off the bottom of the turnip, being careful not to disturb the roots, and your vegetables will be from one to two weeks earlier than those raised in a hot-house and transplanted in the common way. Let three or four cucumber or lettuce plants grow in a hill, and but one tomato or cabbage plant. After they are set and growing well, nip off the poorest of the tomatoes and cabbages, for by pulling them up you disturb the roots of the one you wish to grow.—G. Converse, *Wilkesbarre, Pa.*

Black Knot—A Curculio Remedy.—We cannot agree with you on the plum tree, as we can show you trees, worked upon the proper stock, that are thirty years old, bearing profusely every year, and have no "black wart." We have a very simple remedy for the "little Turk," *curculio*, which is to burn old chips of leather under the trees when the plum is of the size of a pea,—one application being sufficient. Plum trees should be worked on plum stocks,—not on peach, wild plum, nor suckers from old trees, as these make a sickly tree, good for nothing.—C. Reagles & Son, *Schenectady, Nov.*, 1858.

New Advertisements this Month.

A Novelty—Volney Leonard, Springfield, Pa.
Wholesale Catalogue for 1859—A. Frost & Co., Rochester, N.Y.
Rochester Commercial Nurseries—H. E. Hooker & Co, Rochester, N. Y.
Wilson's Albany Strawberry—John Wilson, Albany, N. Y.
Rochester and Lake Avenue Commercial Nurseries—J. Donnellan & Co., Rochester, N. Y.
Peruvian Guano—A. Longett, New York.
Superphosphate of Lime, Bone Dust—A. Longett, New York.
Agricultural Implements—A. Longett, New York.
Agricultural Implements—Pease & Eggleston, Albany, N. Y.
Old Rochester Nurseries—Samuel Moulson, Rochester, N. Y.
New Illustrated Rural Manuals—Fowler and Wells, New York.
How to do Good and get paid for it—Fowler and Wells, N. Y.
Isabella and Catawba Grape Vines—R. T. Underhill, M. D., New York.
The Practical Horse Farrier—E. Nash, Auburn, N. Y.
Flower Seeds by Mail—J. M. Thorburn & Co., New York.
Elliott's Western Fruit Book—A. O. Moore & Co., New York.
American Weeds and Useful Plants, or Agricultural Botany—A. O. Moore & Co., New York.
Landscape Gardening—A. O. Moore & Co., New York.
Field and Garden Seeds—I. W. Briggs, Macedon Center, N. Y.
Lawton Blackberry Plants—Wm. Lawton, New York.
Buffalo Nurseries—D. S. Manley, Buffalo, N. Y.
Glorious News for Farmers—Pease & Eggleston, Albany, N.Y.
Short Horn Bulls—E. Marks, Camillus, N. Y.
Valuable Farming Lands for Sale—Alex. Olcott, Corning, N.Y.
Grape Vines—Hoag & Craine, Lockport, N. Y.
Fruit and Ornamental Trees for Spring of 1859—Ellwanger & Barry, Rochester, N. Y.
Apple-Pie Melon Seeds—W. H. Gardner, Sublette, Ill.
Baker Apple Grafts—F. A. Rockwell, Ridgefield, Conn.
Cherry Currants—Chas. F. Erhard, Ravenswood, Long Island.
Drain and Roof Tile Machines—F. M. Mattice, Buffalo, N.Y.

APRIL PREMIUMS.—Our friends will not forget that we have offered over $200 in cash premiums to be awarded for the greatest number of subscribers sent in by the 15th of April (see February number, page 71). Very few of our agents are competing for these premiums. They will undoubtedly be awarded to very small clubs. There is yet abundance of time to get subscribers. As we stereotype the *Farmer* and *Rural Annual*, we can supply all the back numbers. The *Farmer* is not a newspaper, and the back numbers are as interesting and useful now as when first issued. Those of our readers who have paid 50 cents for the *Farmer*, can have four more copies, sent to any address, for $1.50, or *seven* copies for $2.50, together with a *Rural Annual* to the person getting up the club. Additions can be made to clubs at any time, for 37½ cents each.

A HINT TO ADVERTISERS.—A correspondent writes: "I have a suggestion to make to those enterprising men who advertise agricultural implements, &c., in your paper. *Tell us what your price is.* I am inclined to buy the 'Young America Corn Sheller,' if I do not have to 'shell out' too much to buy it. How much?" [We believe the price is $10. We hope our advertisers will act on the above suggestion.]

ADVERTISEMENTS.—We have more advertisements in the *Farmer* this month than we desire. Still, they are all of interest to our readers. We exclude patent medicines and all other deceptive advertisements. It is our design to make *every* department of the paper interesting and useful. On this account, we must again request our advertising friends to make their advertisements as short as possible. Our terms, perhaps, are too low; but if our friends will be brief we shall not increase our terms at present, though they are now the same as when we had but *one-third* our present circulation.

THE RURAL ANNUAL.—Every reader of the *Genesee Farmer* should have the *Rural Annual*. We will send it prepaid to any address on the receipt of 25 cents in postage stamps. Any of our agents who have got up a club of eight subscribers can have eight copies of the *Rural Annual* for $1.00, sent prepaid by mail to any address. Everyone getting up a club of eight subscribers for the *Farmer* at our lowest club rates of 37½ cents each, is entitled to the *Rural Annual*. If any have not received it, we will send it immediately when notified of the fact.

CIRCULATION OF THE GENESEE FARMER.—Thanks to the disinterested efforts of our numerous friends who have acted as agents for the *Genesee Farmer*, our circulation this year *far exceeds* our most sanguine expectations. We have already worked off *thirty thousand* copies of the February number, and shall have to print another edition in a short time. This unprecedented success will stimulate us to still greater efforts to improve the *Farmer*. We shall spare no labor or expense to make it worthy of this most liberal patronage.

CARELESS POSTING.—The records of the Dead Letter Office show that there must be a great amount of ignorance or carelessness in regard to posting letters, and it is probable that the latter preponderates. A careful business man pays the utmost attention to preparing letters for the mail, and observes the rule of always looking over the address of each one before depositing in the post office. During the year which terminated on the 30th of September last, there were found 12,102 letters which contained money, amounting in the aggregate to $61,239.

THE GENESEE FARMER FOSTERS A LOVE FOR AGRICULTURE.—A farmer observed, the other day, that his boys had rather disliked the business of farming; but when he took a number of the *Genesee Farmer* home to examine, the boys read it with interest, and observed that they would do better if he would subscribe for it. He did so; and he says the boys now take more interest in farming, and are highly delighted in reading the *Farmer*. I think many other farmers might do likewise, with the same advantage. —J. T. SERGEANT, *Sand Brook, Hunterdon Co., N. J.*

MISTAKES.—We are always willing to correct mistakes. If any of our subscribers do not receive their papers, we hope they will inform us at once, when we will most cheerfully send them.

WE have received many excellent communications which we are obliged to leave out this month. We trust our friends will continue to favor us with their experience.

THERE were 312,000 tons of Peruvian guano imported into Great Britain last year. This is a larger amount than in any previous year.

TRIAL OF REAPERS IN BELGIUM.—The Central Society of Agriculture of Belgium proposes to hold an international trial of reaping machines at Brussels, during the present year. Three thousand francs have been voted to be distributed in one or two prizes and to go toward the payment of all kinds of expenses connected with the carriage of the machines.

R. W. SAWTELL, Esq., of Woodstock, C. W., writes: "Our winter is mild but unhealthy, the extremes of cold and heat being so sudden. On the 10th of January, the thermometer ranged as low as 40° *below* zero in some parts, and three days after, 54° *above*—a variation of 94°—almost enough to kill a horse."

THE GENESEE FARMER, a monthly of thirty-two pages, published by JOSEPH HARRIS, at Rochester, N. Y., is the oldest, and probably the cheapest and best, agricultural publication in the country. It is standard authority with farmers, comes from the very garden of the Western world, and its columns are filled with precisely such practical matters and original suggestions as every real farmer needs to possess. It is only half a dollar a year. Specimens sent free on application. Now is the time to subscribe, with the new volume, which commenced this month. It is really more valuable as a farmer's manual than most of the two-dollar papers in the country.—*Eastern Times, Bath, Me.*

Inquiries and Answers.

TREATMENT OF SANDY SOILS.—I have purchased twenty-five acres, the soil of which, for the most part, is a sandy loam overlaying a subsoil of almost pure sand, and is valuable for nearly every purpose, but especially for gardening. A small portion, however—some two acres,—the former proprietor considered nearly barren, and has laid idle for several years. I desire to plant this piece to grape vines in the spring, thinking it adapted to that purpose; but before doing so, I wish to prepare it in a manner best calculated to answer my purpose. The question is, how shall I manage? Trenching, in my opinion, is useless, as the subsoil is too open and porous already—a leachy sand. Would a good coating of lime—say fifty bushels—spread on the surface, be of any real benefit to the soil or vines? Would digging large holes, two feet deep and six or eight feet wide, and filling them with a rich compost, ensure a good growth and bountiful yield? or what other method would you recommend as a proper cultivation for grape vines? What compost would you recommend as the most suitable for out-door culture of vines, and the proper proportion of the different ingredients? Your answer will much oblige—H. L., *Drummondville, C. W.*

It is always less trouble to ask questions than to answer them; but as we know our correspondent is an intelligent inquirer desirous of information, we venture a few suggestions.

Judging from your location and our knowledge of the soil, we should fear the two acres is somewhat springy—has for the most of the year too much wet to be warm and productive, and possibly has large patches of quicksand. The first step will be to provide ditches or underdrains, three feet or more below the surface, to carry off surplus water. If the sand contains too little mold or soil, measures should be taken to supply the deficiency in the cheapest and most effectual manner. If the whole two acres could be top-dressed with clay soil several inches deep, and allowed to freeze through the winter, it would become broken up so as readily to incorporate with the sand. We do not see why it is not practicable to ameliorate sandy soils by the use of clay as are clay soils by the use of sand. A farmer friend of ours, on the shore of Lake Erie, west of Buffalo, has changed the character of some of his stiff clay lands by the use of beach sand, and expresses it as his opinion that for this use a load of sand is worth as much as a load of barn-yard manure. We would recommend to our Canadian correspondent, if practicable, a reversal of this process. If applied at once, it would become quite soft by spring, when we should recommend trenching the whole plat at least two spades deep, leaving the clay soil at the bottom; or, what would be better, mixing it through the whole.

When a sandy soil is broken up and worked as deep as we recommend, little danger of leaching is to be apprehended. This is more liable to occur, if at all, in a soil that is not often stirred, though very little danger is to be apprehended from this source. The effect of passing water through sandy loam or other soils, is to deprive it of its ammonia and vegetable matter held in solution, leaving it pure and palatable. This matter left in the soil is ready to be taken up by the roots of plants, as needed; and if good drains are laid to carry off the surplus water, the soil is rather benefited than injured by the process of filtration. It is not necessary to pursue this matter in detail at this time.

Lime is used as an ameliorator of the soil in so many different cases, and for such a variety of purposes, that it is not easy to give any definite rule for its application. Applied in a caustic state, it acts on the vegetable matter in the soil, rendering it more soluble—a preparation for its assimilation as food of plants. Applied to a loose, sandy soil, the rains will wash it down among the particles of sand, where, acting as a solvent of the silica, it prepares it to enter into the structure of plants. So of clays. They often contain all the necessary constituents of plants, held so firmly together by their affinities that plants can not obtain their support. The application of quick-lime, breaking up these affinities, enables the soil to yield life-giving food to the crop. If lime were to be applied to the soil in question, it should be plowed, the lime sown broadcast, and a hoed crop—corn or beans—planted and often hoed, that the whole may become incorporated. This crop should be succeeded by such treatment of the land as will best prepare it for the use designed.

In addition to the lime, we should advise a fair dressing of ground bones, which may be had at Buffalo, and are an excellent fertilizer for vines.

In the place of digging holes and filling them up with compost, as proposed, we should trench and enrich the whole to some extent; and after the vines had been planted and commenced growing well, top-dress the whole soil with compost, ground bones, or well-decayed barn-yard manure.

We are not aware of any rule for making compost heaps. Barn-yard manure, leaves, decaying vegetable matter, swamp muck, gypsum—all in indefinite quantities—mixed and commingled until it is well decomposed, makes a good compost for such purposes.

APPLE TREE BORER.—(H. H. D., Willoughby, C. W.) The worm to which you refer is unquestionably the Apple Tree Borer. They are sometimes in trees sent out from nurseries, and often appear in localities where it is difficult to account for their presence.

The Borer, in its winged state, deposits its eggs upon the bark, near the root of the tree. Sometimes they are deposited in the first fork. Each egg hatches a maggot, which eats its way directly downward in the bark. By

scratching off the outer coat, its course can be traced, and its location found by a blackish spot about as large as a wheat kernel, by cutting into which the worm will be exposed to view.

Alkaline washes are destructive to insects, their eggs and larvæ, one of the most common of which is good soft soap. Some cultivators put a handful of the soap in the fork of the tree. DOWNING recommends coating the tree with a paint made of soap, sulphur, and tobacco water. Dr. FITCH recommends puncturing the bark at the upper end of the burrow and pouring in hot water from a vessel having a small spout, repeating the water at intervals until it oozes out at the bottom of the hole. A heat of 180 deg. (somewhat below the boiling point) will kill the worm if the water reaches it in any considerable quantity.

CORN *vs.* RYE AS FOOD FOR HOGS.—I wish to know the comparative difference between a bushel of corn and a bushel of rye, to be ground and fed to fattening hogs and cattle, the rye being the cheapest in this vicinity.—P. W. HALL, *Loraine Co., Ohio.*

We know of no experiments bearing on this point. The composition of dry corn and rye, according to JOHNSTON, is as follows:

	Corn.	*Rye*
Starch, &c.,	71.6	78.0
Protein compounds,	12.3	12.5
Fatty matter,	9.0	3.5
Husk,	5.9	
Mineral matter,	1.2	6.0
	100.0	100.0

The amount of protein or *flesh-forming* compounds is nearly identical in both corn and rye. Rye contains the most starch, and corn the most fatty matter. Whether oil is more fattening than starch, is a disputed point. Taking the starch and fatty matter together, there is very little difference between corn and rye in the amount of heat or fat-forming compounds. So far as these analyses indicate, there is very little difference in the value of corn and rye as food. Rye is said to be easier of digestion than corn. *Morton's Cyclopedia*, an excellent authority, says "rye is inferior to wheat as a bread-corn, to barley as food for hogs, or for the use of maltsters or distillers, or oats as food for horses."

We shall be glad to hear from those who have had experience on this subject.

THE RELATIVE VALUE OF LIQUID AND SOLID EXCREMENTS. —(J. S.) A man passes about 95 lbs. of fæces and 1,094 lbs. of liquid in the course of a year. The former contains 1.2 lbs. of nitrogen; the latter, 10.8 lbs; so that the liquid is worth about nine times as much as the solid excrements. But, from this statement, many persons appear to have got an erroneous impression. We have heard it publicly asserted that a *given weight* of urine is nine times as valuable as the dung. This is not the case. One hundred pounds of urine contains no more nitrogen and other food of plants than one hundred pounds of dung. The dry, solid matter of the urine, is exceedingly valuable —very much more so than that of the dung; but it is mixed with so much water as greatly to reduce its strength. It is, of course, of great importance to preserve all the liquid on a farm, inasmuch as by far the greater proportion of valuable fertilizing matter is found in it; but when we talk of purchasing the liquid, we must remember that, from the great quantity of water united with it, a ton of urine is worth no more than a ton of good dung.

MARSH WILLOWS.—(J. L., Clay, N. Y.) The usual method of subduing these willows is to burn the grass in the marsh early in the spring, following this with a scythe or brush-hook, cutting all the willows left, and piling them to be burned some future day. Sow with red top, and mow the same season, cutting off any young twigs of willow that have sprouted, which sheep will eat as well as the hay.

When there is not grass enough to burn well and the brush are thick, it will be best to cut them during the winter and spring, and burn as soon as dry enough. Sow on red top, or timothy if the land is not too wet, and pasture the piece. If sprouts come up, run over them with a brush-scythe the latter part of the season. Clip them off in this way a few times, and they generally run out. The Red and Yellow are the worst.

It will assist in destroying them to make good ditches along the sides of the field, which not only drain the land, but, if made broad, serve as a fence. The muck thrown out makes good material for compost, or may be applied as a top-dressing after being frosted one winter.

If willows can not be subdued in this way, it will be profitable to set up a basket-factory, and thus turn them to good account.

PROPAGATING PEACH TREES.—I wish to inquire if peach trees have ever been successfully propagated by layering, as recommended in the *Patent Office Report* for 1856, pp. 358 and 389. Any directions for it would be gladly received. Would not trees thus obtained probably be less vigorous than seedlings? This is certainly the case with the apple and the pear, although with some other trees it apparently makes but little difference (*a*).

I also wish to inquire particularly if peach trees at Rochester and Utica are ever affected with the yellows (*b*).

Which of the late-ripening varieties are found to be the most profitable? (*c*)

Is *Hyslop's Cling* cultivated with you? If so, what do you think of it? *Elliott's Fruit Book* recommends it highly as a substitute for *Heath Cling* where that does not ripen well (*d*).—H., *Leominster, Mass.*

(*a*) Peach trees may undoubtedly be propagated in the manner mentioned above, but it would certainly be unadvisable to adopt it as a practice. It may be a means of furnishing amusement but not profit.

(*b*) Not to our knowledge.

(*c*) *Crawford's Late, Red Cheek Melocoton,* and *Oldmixon Free,* are among the best and most profitable late-ripening varieties.

(*d*) *Hyslop's Cling* is not cultivated in this vicinity, and we are not acquainted with it.

INCRUSTATIONS ON STEAM BOILERS.—(P. R., Harpersburg, C. W.) It has always been difficult to prevent or remove these incrustations, which always occur when *hard* water, or water containing lime, is evaporated. In the common tea-kettle they may be partially prevented by keeping an oyster shell in the kettle, for which the precipitated lime has a greater affinity than for the metal of the kettle. This is not practicable in boilers.

Recently, a patent has been granted in England, which is represented as being very efficient for removing the incrustations. The method is to put a piece of India rubber, about half a pound, in a boiler of 100 horse-power, where it is allowed to remain continually, small quantities being added occasionally, so as to keep the water a light brownish color. This is said not only to prevent, but speedily to remove in a few hours all incrustations formed. It is simple and easily tried.

Osage Orange.—Will you inform me if Osage Orange plants, four years from seed, will live if transplanted with care next spring? Also, if Buckthorn and English Hawthorn will answer to plant in where the Osage Orange has been killed off, the last two years, a foot or more below the cutting, and sprouted out near the top of the ground. My hedge has been planted five years next spring, and no fence yet. It is quite full and wide enough at base, but I can not get it more than two or three feet high.—R. B., *S. Thomas, C. W.*

The Osage Orange is very tenacious of life, and would probably grow if transplanted as you propose; but unless it has been pruned so as to make it throw out branches near the bottom, it would be of little use in the hedge.

Can not say how the Buckthorn or Hawthorn would answer to replace those killed; but their habit of growth is so much slower than the Osage Orange, that they would probably be of little value. It is generally supposed that the extreme heat of summer in this climate renders the Hawthorn too uncertain for a hedge plant.

Summer clipping of the branches is recommended to remedy winter-killing. Cut back early in July, after which a new growth will come forward and be killed off; but that part below the July clipping will probably mature sufficiently to stand the winter. If you have a hedge wide enough and three feet high in five years, it ought to be satisfactory; and the summer growth should be sufficient to turn any kind of stock.

Destruction of Wire-Worms.—(L. B. Hanford.) Many have been the devices and applications to rid the soil of these pests, but with very indifferent success. Arsenic, lime, unleached ashes, &c., have been sown with temporary benefit; but we are not aware that any of these applications have destroyed the worms effectually. A crop of buckwheat, which they do not relish, has been effectual for a time in starving them out, or, what is more probable, in forcing them to migrate to more congenial fields. J. G. of Amherst Island, C. W., gives the following experiment in checking their ravages in a field of barley, on a black loam with a clay subsoil:

"The land had previously been meadow, followed by barley, when I perceived the barley was being cut off in patches, much of it turning yellow and languishing. I sowed broadcast on the land fresh lime and salt, in equal proportions. The good effects were soon perceptible—the grain assumed a healthy appearance, and, as far as I could perceive, no more was cut down, and the field yielded a good crop."

Had Mr. G. stated the quantity sown per acre, his experiment would have been more satisfactory.

Can not others add the result of their experience upon this subject.

Feeding Clover Hay.—(Andrew Friedle, Blairsville, Pa.) We should think, from the description given of your hay, it had been hurt by being put into the barn before it was well cured. You think it is cured too dry, and neither cattle nor horses eat it well. Our recommendation would be to cut it short with a hay-cutter, moisten it with water as you feed it, and sprinkle on each mess, while damp, a small measure of Indian meal, shorts, or other ground feed. Farmers complain that clover hay gives their horses a cough, or the heaves. All danger of this difficulty may be obviated by feeding it as here indicated.

Clover Seed out all Winter.—(M. Haskins.) Your clover seed, which you were unable to harvest, will not be injured by the frost. It will be good, if you can gather it.

Lice on Calves.—(M.) Feed your cattle well, and keep them clean, and they will not be troubled with lice. If they are, there a dozen methods of destroying them. The easiest, perhaps, is to wash them with a decoction of tobacco. Some fumigate with tobacco, by burning it under the belly and covering the animal with a blanket. Another way is to apply oil or grease along the back, shoulders, around the eyes, and other parts of the body. Mercurial ointment is very effectual, but requires to be used with caution. We have known the tobacco water make the animal sick when too strong. Better apply a weak solution two or three times, than run the risk of impairing the health of the animal by too strong a dose at once.

If calves are troubled with lice, give them a little sulphur in their milk. This will generally prove effectual. Be sure that the pen is dry, well ventilated, but not too light, and supplied with plenty of clean straw.

Several Inquiries.—There are many things about farming of which I am ignorant; and it is frequently the case that what one wishes to know, many others are also desirous of learning.

My horse-barn has a cellar under it, where, beside keeping my wagons, plows, harrows, etc., etc., I also keep my calves and colts through the winter. Of late, I have practiced spreading my horse manure where the calves leave their droppings, so as to have the manure well mixed. This prevents the horse manure from burning. Can you, or some of your readers, tell me whether it is better to spread the manure daily, cold, or let it ferment slightly so as to steam a little?

There is another thing I would like to know. I have four horse-stalls, with troughs to convey the urine into two large iron-bound oil-casks which stand in the cellar. What materials shall I mix with the urine, and how can I make the most of it? I have practiced putting in leached and unleached ashes, plaster, hen dung, lime, and salt; and putting about a gill into each hill of corn, when planting, and have received great benefit from it. I have to be careful and not drop it directly on the corn. How much of this is wrong, and what would be better? Will some one tell?

One thing more. For some years I have been in the habit of going into my corn field, before cutting up my corn, and gathering the first ripe corn for seed, braiding it up, and keeping it out in the sun on pleasant days, until dry enough to put away in a tight chest where mice can not get at it. This, I have discovered, makes it early, and I have no trouble with poor seed corn; but the ears gradually become smaller every year. Can this be prevented?—A. Tiffany, *Gibson, Pa.*

Raising Mules.—Considerable has been said about Mules *vs.* Horses, in which we have been interested. An impression prevails that mares will not breed colts after having foaled mules. It has deterred many from raising mules who would otherwise have done so. Is there any truth in the theory? Will some one answer?—W.

Notices of Books, Pamphlets, &c.

Our columns are so crowded, this month, that we can give only the titles of the new books recently received.

THE LAND AND THE BOOK; or Biblical Illustrations drawn from the Manners and Customs, the Scenes and Scenery, of the Holy Land. By W. M. Thompson, D. D., twenty-five years a Missionary of the A. B. C. F. M. in Syria and Palestine. In two volumes, with Maps, Engravings, &c. New York: Harper & Bros. 1859. For sale by D. M. Dewey, of this city.

CORNELL'S GRAMMAR-SCHOOL GEOGRAPHY; forming a Part of a Systematic Series of School Geographies. Embracing an extended course, and adapted to pupils of the higher classes in Public and Private Schools. By S. S. Cornell. New York: D. Appleton & Co. For sale by Wm. Alling, of this city.

THE COMEDIES OF TERENCE. Literally Translated into English Prose, with Notes. By Henry Thomas Riley, B. A., late Scholar of Clare Hall, Cambridge. To which is added the Blank Verse Translation of George Colman. New York: Harper & Bros. 1859. For sale by D. M. Dewey, of this city.

HOWARD AND HIS TEACHER, THE SISTER'S INFLUENCE, and other Stories. By Mrs. MADELINE LESLIE, author of "Cora and the Doctor," "Courtesies of Wedded Life," "Household Angel," &c., &c. Boston: SHEPARD, CLARK, & BROWN. For sale by WM. ALLING, of this city.

WHAT WILL HE DO WITH IT? By PISISTRATUS CAXTON. A Novel. By Sir E. BULWER LYTTON, Bart., author of "My Novel; or Varieties of English Life," "The Caxtons," "Pelham," "Night and Morning," "The Last of the Barons," &c. New York: HARPER & BROS. 1859.

SYLVAN HOLT'S DAUGHTER. By HOLME LEE, author of "Kathie Brande," Gilbert Massenger," "Thorny Hall," &c. &c. New York: HARPER & BROS. 1859. For sale by D. M. DEWEY, of this city.

ERIC: or, Little by Little. A Tale of Roslyn School. By FREDERICK W. FARRER, Fellow of Trinity College, Cambridge. New York: RUDD & CARLETON. Price $1. For sale by D. M. DEWEY, of this city.

THE AFTERNOON OF UNMARRIED LIFE. A companion to "A Woman's Thoughts about Women." New York: RUDD & CARLETON. Price $1. For sale by D. M. DEWEY, of this city.

DORA DEANE, or the East India Uncle; and MAGGIE MILLER, or Old Hagar's Secret. By Mrs. MARY J. HOLMES, author of "Lena Rivers," &c. New York: C. M. SAXTON. 1859.

MOUNT VERNON: A letter to the Children of America. By the author of "Rural Hours," &c. New York: D. APPLETON & Co. 1859. For sale by D. M. DEWEY, of this city.

OUR CHARLEY, and What to do with Him. By Mrs. H. B. STOWE. Boston: PHILLIPS, SAMPSON, & Co. For sale by D. M. DEWEY, of this city.

SOUTHWOLD. A Novel. By Mrs. LILLIE DEVEREUX UMSTED. New York: RUDD & CARLETON. Price $1. For sale by D. M. DEWEY. of this city.

ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1859. Albany: LUTHER TUCKER & SON. 1859. Price 25 cents.

TRYING TO BE USEFUL. By Mrs. MADELINE LESLIE. Boston: SHEPARD, CLARK, & BROWN. 1859. For sale by WM. ALLING, of this city.

THE JUVENILE ALMANAC FOR 1849. Boston: SHEPARD, CLARK, & BROWN. For sale by WM. ALLING, of this city.

THE LADIES' ALMANAC FOR 1859. Boston: SHEPARD, CLARK & BROWN. For sale by WM. ALLING, of this city.

BUIST'S GARDEN ALMANAC AND MANUAL FOR 1859. By R. BUIST, Philadelphia, Pa.

REVIEW OF THE MARKETS.

GENESEE FARMER OFFICE,
ROCHESTER, N. Y., FEBRUARY 21, 1859.

THE present aspect of the market is one of more than usual interest. Previous low prices had induced a speculative feeling, which was soon manifest in a rapid advance. As usual, on such occasions, matters were run somewhat to an opposite extreme. The advance, which was most marked in the low and high grades, was equal to one dollar a barrel in three weeks; in medium brands it was not so great. That prices had previously fallen too low, does not admit of a reasonable doubt; that the re-action was of too strong and rapid a character, is scarcely less a matter of doubt; that the last crop, in this country, was below an average, may be regarded as certain; that speculation has had much to do in producing the present state of the market is equally apparent. At current prices, a foreign demand is out of the question, as in England and Continental Europe they are lower than here. The home demand therefore, is all on which to depend for support. This may be sufficient, speculative and real, to sustain existing rates until the opening of spring, especially if the anxiety in Europe should not subside. If that should manifest itself in a more decided form, a further advance may take place; otherwise, a decline will most likely follow the opening of navigation. The prospect of the future crop will then have its influence; but it is yet too soon to form an opinion on that point.

FLOUR AND GRAIN.—The market for Flour and Wheat is very sensitive. An advance brings out increased supplies, and these produce a retrograde movement in prices. If speculators should realize to any extent, a material decline would follow. In coarse grain, the market is more steady and healthy, and, with the exception of Corn and Oats, has a slight upward tendency.

PROVISIONS.—The market generally firm and tending upward. A speculative demand is apparent in Beef and Pork, arising, perhaps, from a supposed deficiency in the general stock, or an apprehension of trouble abroad. In either case doubtful.

WOOL.—The market is universally firm. Here, we think, the holder is safe. Speculators are anxious to make contracts for the next clip. Farmers, look well to your interest in this matter. The practice of selling anything before it is ready for market, is, to say the least, of doubtful policy. We think the quotations for this article, especially the high grades, are decidedly too low.

ROCHESTER MARKET.—Feb'y 21.

FLOUR—To the trade—extra and double extra, $5.50@$7; extra State, $5.50; superfine State, $4.75@$5; market firm.

GRAIN—White winter wheat, $1.60@$1.70; red do. $1.35@$1.40; spring, 90c@$1.10 according to quality; market firm, with little doing. Barley firm at 75c. Corn, 75c@80c. Oats, 50c@55c by weight. Buckwheat, 44c.

SEEDS—Clover, $5.75@$6. Timothy, $2.25@$3. Red top, $1.50@$2.

PROVISIONS—Dressed hogs, 7¾c@8c; Beef, 5½c@6½c; Mutton, 5c@5½c to the trade. At retail—Beef, 7c@11c; Mutton, 6c@8c; Pork, 10c. Hams, 11c@12c. Shoulders, 9c@10c. Lard 13c. Butter, 20c@22c. Eggs, 16c@18c.

CATTLE—Live weight, 4½c@5c per lb. Sheep, $3.50@$4.50 per head.

NEW YORK MARKET.—Feb'y 18.

FLOUR—Active; demand of a speculative character. Superfine State, $5.35@$5.50; extra do, $5.90@$6.10; Michigan, Indiana, Ohio, and Iowa superfine, $5.40@$5.60; extra do, $6.10@$7.30; Ohio round-hoop, $6.40@6.50. Southern firm; Baltimore, $5.90@$6.75; Brandywine, $6.40@$7.25; Petersburg city and Richmond city, $8.75. Gallego and Haxall Canadian, $6.90@$7.25 for extra. Rye flour quiet at $3.75@$4.80 for the range. Corn meal unchanged; Jersey, $3.65@$3.75; Brandywine, $4.25.

GRAIN—Wheat dull; winter Western, $1.30; red Southern, $1.35@$1.40; white Canada, $1.37; white Mich, $1.47@$1.50; red Indiana, $1.40. Rye, 83c@87c. Oats, 54c@56c for Jersey, Delaware, and Pennsylvania; 54c@59c for State; 61c@64c for Canadian and Western. Corn dull; yellow Jersey and Southern, 80c@82c; white do, 80c@83c; Western mixed, 81c@86c.

SEEDS—Clover, 11c@11¾c. Timothy—mowed, $2.60@$2.75; reaped, $2.25@$2.75 per bushel. Red top, per five-bushel bag, $3.50@$3.75.

PROVISIONS—Pork steady; new mess, $18; old do, $17.50; prime, $13.25@$13.50. Beef—country mess, $7.50@$8; country prime, $6.50@$7; Western re-packed, $8.75@$11; extra mess, $11.50@$12; common qualities dull and heavy, extra grades firm; prime mess quiet at $16@$19. Beef hams, $14@$17.50. Dressed hogs dull at 8¾c@9c. Hams, 8¾c@9¾c. Shoulders, 6¾c@7c. Lard dull at 11¾c@12c for City and Western. Butter—Ohio, 11c@19c; State new, 16c@27c; Orange Co., 25c@28c. Cheese—fair to prime, 8¾c@11¾c.

WOOL—Saxony fleece, 58c@55c; full-blood Merino, 47c@50c; ¾ to ¾ do, 42c@46c; ½ do, 39c@40c; extra pulled, 41c@46c; superfine do, 37c@40c; No. 1 pulled, 30c@34c; Cal. fine unwashed, 22c@27c; do common unwashed, 10c@17c.

CATTLE—Tendency upward. First quality, 10½c@11½c; medium, 9¾c@10c; ordinary, 7¾c@8¾c; extra good, 12½c@13¾c per lb. net weight. Sheep, $3@$9 per head for the range.

PHILADELPHIA MARKET.—Feb'y 14.

FLOUR—$5.75@$6 for extra. Rye Flour, $4@$4.25. Corn Meal, $3.62.

GRAIN—Red Wheat, $1.37@$1.43; White, $1.45@$1.53. Rye scarce at 85c. Yellow corn, 80c@82c for dry lots. Oats, 51c@53c for Pennsylvania. Barley, 85c@87c.

SEEDS—Clover, $6.75@$7.25. Timothy, $2.12. Flax, $1.33.

WOOL—Stock light. 42c@65c per lb.

CATTLE—An upward tendency. $7.50@$11 per 100 lbs. for good to prime; extra quality, $12. Sheep advanced in price. Sales at $3@$6 per head, according to quality.

Feb'y 17.—Breadstuffs firmer but without activity. Prime Wheat scarce and wanted. Provisions quiet; Mess Pork, $18.87; Lard lower, selling at 12½c@13c.

BUFFALO MARKET.—Feb'y 17.

FLOUR—Market active; superfine, $5@$5.50; extra, $5.50@$6.75 the range.

GRAIN—Wheat—holders firm, above the views of buyers. Ohio red winter, $1.30; white Illinois, $1.50; white Kentucky, $1.60@$1.70. Corn firm at 51c@53c for new. Oats nominal at 40c. Barley—Western, 65c@65c; State, 75c@76c.

SEEDS—Clover, $6.5[illegible]@$6.75. Timothy, $2.25@$2.50.

PROVISIONS—Pork—mess, $16.50@$17.50; prime, $13.50@$18. Lard, 11¾c. Hams—green, 8c. Shoulders, 6¾c. Smoked hams, 9¾c.

CHICAGO MARKET.—Feb'y 16.

FLOUR—Winter red and white, $5.75@$5.90; extra spring, $5.50; superfine do, $3.75. Rye Flour, $5.

GRAIN—Wheat—receipts heavy, but market buoyant; No. 1 red winter, $1.25@$1.27; No. 2 red, $1.14@$1.15; Spring, 88c@$1, according to quality. Corn—shelled, 63c@65c per 60 lbs. Oats, 30c. Rye, 90c. Barley, 80c@$1, for medium to prime.

CINCINNATI MARKET.—Feb'y 16.

FLOUR—A speculative feeling manifest. Superfine, $5.50@$5.60; extra, $5.75@$6.

GRAIN—Wheat—white, $1.25@$1.35 for fair to strictly prime; red, $1.15@$1.25; closing firm. Corn in fair demand, with an upward tendency; fair mixed, 80c; choice white, 82c@85c. Rye dull at 85c@87c. Barley dull at 76c@78c for prime fall.

PROVISIONS—Dull and declining. Mess Pork, $18@$18.50. Bacon—sides, 9¼c; clear, 11c. Shoulders, 7¼c. Hams, 11c@11¼c.

TORONTO MARKET.—Feb'y 16.

FLOUR—Stock low. Superfine, $6@$6.25; fancy, $6.50; extra, $6.75@$7.

GRAIN—Wheat steady; good shipping parcels, $1.50@$1.60; inferior and medium, $1.35@$1.45; deliveries light; spring wheat dull at $1.40. Barley active at 85c@95c. Rye, 70c@75c. Oats dull at 60c. Peas in good demand at 85c@90c.

PROVISIONS—Pork—prime hogs, $6.50. Mess Pork, $15@$16. Beef—hind quarters, $5 per 100 lbs. Butter, 20c.

CATTLE—$3@$6 per 100 lbs., deducting one-third for shrinkage. Sheep, $4.50@$5 each. Calves, $5.

LONDON MARKET.—January 24.

In consequence of increased supplies, the late advance has been lost. English wheat, $1.10 @ $1.45; American, $1.25@$1.45. American flour, $4.65@$5.85 for sour and sweet. Barley, 90c@$1.05. Oats, 70c@95c.

SEEDS—Red clover, 12c per lb.; white do, 15c@18c. Linseed dull at $1.95 per bush. for sowing and $1.70 for crushing.

WOOL—Firm, with a prospect of higher rates. Prices range from 30c to 42c per lb.

LIVERPOOL MARKET.—January 24.

FLOUR—Western canal, $4.80@$5.25; Philadelphia and Ohio, $5.25@$5; sour $4.30@$4.80. Corn meal, $3.65@$3.90.

GRAIN—White wheat, $1.65@$1.90; red do, $1.40@$1.60 per 70 lbs. Yellow corn, 56c@58c; white do, $1@$1.02; mixed, 54c per bush. of 60 lbs.

SEEDS—Red clover, 12c@13c per lb. Linseed, $1.50@$1.70.

WOOL—Stock light and holders very firm. 36c per lb.

BRIGHTON CATTLE MARKET.—Feb'y 17.

At market, 1200 Beeves, 200 Stores, 2000 Sheep and Lambs, 120 Swine.

PRICES—Market Beef—Extra, $8.00@$8.25; First quality, $7.50; Second $6.75; Third, $5.00. Milch Cows—$30 @ $40; Common, $19@$20. Veal Calves—$5@$5. Yearlings—none. Two Years old—$20@$24. Three Years old—$24@$31. Hides—7½c@8c per lb. Calf Skins—13c@14c per lb. Tallow—7½c@8c. Sheep and Lambs—$1.75@$2.00; extra, $3.00@$6.00 Pelts $1.50@$1.75. Swine—Pigs, 6½c; retail, 6½c@7½c.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAYABLE IN ADVANCE.

APPLE-PIE MELONS—39 cents per dozen seeds.
A March—1t W. H. GARDNER, Sublette, Lee Co., Ill.

BAKER APPLE GRAFTS—By mail, post-paid, 36 cents per dozen. Send stamps. F. A. ROCKWELL, Ridgefield, Ct. *

A NOVELTY—THE MEXICAN COSHAW.—This new mammoth vegetable is perfectly adapted to the Northern States. It is unequalled for its edible qualities, and makes delicious pies. Price of seeds, 25 cents per package, sent to any address postpaid. Address VOLNEY LEONARD, Springfield, Bradford Co., Pa. 1t*

VALUABLE FARMING LANDS FOR SALE.—A portion of the splendid farming lands formerly belonging to the Hon. A. B. Dickinson, situated in the town of Hornby, Steuben Co., N. Y., comprising 3000 acres, is now offered for sale.

Parties desiring any part of this highly cultivated land, may have it in such quantities as they may desire, by applying to
March.—2t ALEXANDER OLCOTT, Corning, N. Y.

DRAIN AND ROOF TILE MACHINES.—The Subscriber is Patentee and Manufacturer of the best Machines extant for making Drain and Roof Tile, Hollow and Solid Brick, &c. The Machine grinds the clay, moulds it into tile, brick, &c., and delivers them upon the drying boards, at the same operation, by horse or other power. For further particulars, address,
March, 1859.—1t F. M. MATTICE, Buffalo, N. Y.

CHERRY CURRANTS.—The undersigned, whose genuine Cherry Currants have lately attracted so much attention, will send to all who will apply for it, a circular giving much information about the cultivation of this excellent fruit, and how to make Currant Wine. Also, prices of plants and seed.
1t CHARLES F. EBHARD, Ravenswood, Long Island.

AGRICULTURAL IMPLEMENTS—A large assortment, at manufacturer's prices, consisting of Endless Chain Horse-Powers and Threshers, Excelsior Fan Mill, Hay and Straw Cutters, Churns, Corn Shellers, Seed Sowers, Harrows, Cultivators, Road Scrapers, Iron and Wood Beam Plows, &c., &c.
Send for a catalogue. A. LONGETT,
March, 1859.—3t 34 Cliff street, New York.

10,000 SOLD—THE PRACTICAL HORSE FARRIER. Price 50 cents. Revised Edition, containing the treatment and cure of Diseases, the whole of KARBY'S ART, with illustrated instructions, 100 valuable receipts, &c., &c., sent free, with 20 seeds of the HUBBARD SQUASH, on receipt of eighteen postage stamps. E. NASH, Publisher,
March, 1859.—1t* Auburn, N. Y.

WHOLESALE CATALOGUE FOR SPRING OF 1859.

A. FROST & CO., Rochester, N. Y., Proprietors of the Genesee Valley Nurseries, have just published their Wholesale List No. 4, for the spring of 1859.

The attention of Nurserymen who wish to obtain young Nursery Stock for planting, is specially solicited. Also, of those who desire to make extensive purchases of Trees and Plants for immediate ornament or fruits, for orchards and gardens.

This Catalogue is sent to all applicants when a cent postage stamp is enclosed.

For more full and complete information, the Proprietors refer to the following additional Catalogues, which are sent, gratis, by mail, to those who enclose a one cent postage stamp for each:

No. 1. Descriptive Catalogue of Fruits.
No. 2. Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c., &c.
No. 3. Descriptive Catalogue of Dahlias, Verbenas, Green-House Plants, &c. March, 1859.—1t.

FARMERS! READ! READ! READ!

This Glorious News!

MR. G. PIERPONT, of Rockford, Illinois, purchased one of Share's Coulter Harrow Pulverizer and Grain Coverers, with which he covered 90 acres of wheat on his farm, by merely going over the field once after it was sown. He also covered or harrowed in 15 acres with the common or Scotch Harrow, (and worked over two or three times,) on the same farm, to convince himself of the difference between the two machines. The yield, after harvesting the grain, was, on an average, three bushels more per acre from the land on which he used Share's Harrow than that on which he worked the common Harrow, thereby saving (by pulverizing with our Harrow instead of scratching the top of the land and packing it with the Scotch machine) say 270 bushels of wheat, which, at the present price, ($1.40 per bushel,) is $378, or the cost of 25 machines. Will not this fact induce farmers to purchase this new and improved implement, which will make their labor *easy* and *cheap*? They are manufactured *only* by the subscribers, to whom if orders are sent they will be promptly attended to; and the sooner the better, as the demand for them is constantly increasing.

Address for a catalogue. The weight of the machine is 200 lbs. Price $15 and freight. PEASE & EGGLESTON,
March, 1859.—1t Albany, N. Y.

SEEDS! SEEDS!!

FIELD, GARDEN, AND FLOWER SEEDS!

WE are now fully supplied with one of the largest and most complete stocks of Garden, Flower, and Field Seeds, ever offered to the Western public. Our stock has been made up with much care from the best seed gardens of America and Europe. A large share are home-grown seeds, being grown under our own inspection, and which we can recommend as true to name and of the best quality.

Among our assortment of Seeds may be found over

150 VARIETIES OF FLOWER SEEDS,
200 do GARDEN SEEDS,
HUNGARIAN GRASS SEED.
CHINESE SUGAR CANE AND IMPHEE SEED, &c., &c.

From a long acquaintance with the trade, we feel confident no one can offer better inducements to those desiring seeds.

Those who design to emigrate to Kansas and Pike's Peak, would do well to take with them a box of fresh Garden Seeds.

We also keep constantly on hand a full assortment of

Implements and Machines

Suited to the Field, Garden, Orchard, and Household.

We are fully prepared to supply the trade on the most liberal terms.

Full Catalogues furnished gratis on application; if by mail, inclose a stamp Address H. D. EMERY & CO.,
March, 1859.—2t 204 Lake street, Chicago, Ill.

FLOWER SEEDS BY MAIL.

TWENTY-FIVE VARIETIES
OF
CHOICE ANNUAL FLOWER SEEDS,
WITH DIRECTIONS FOR THEIR CULTURE.
SOLD BY
JAMES M. THORBURN & CO.
No. 15 John Street, New York.

PRICE ..... $1.00.

10	varieties choice Hardy Annuals,	50 cts.
50	" " " Biennials and Perennials,	$2.00
100	" " " " "	4.00
20	" new and rare Annuals,	2.00
20	" choice hardy Biennials and Perennials,	1.00
20	" choice Green-house Seeds,	2.50
40	" " " "	5.00
20	" American Seeds for European Culture,	2.00
6	" for Rockwork,	.75
12	" Aquatics,	6.00
12	" Ornamental Grasses,	.75
6	" Branching Larkspur,	.50
8	" Hyacinth "	.75
12	" finest German Zinnias,	1.00
22	" French Truffant Asters,	5.00

Assortments of beautiful German Asters, Quilled, Perfection, &c., from 75 cts., $1.00, $1.50, to 3.00
Assortments of beautiful German Ten Week, Giant, and Intermediate Stocks, from 75 cts. to 3.00
Assortments containing 50 varieties splendid Carnations and Picotees, ... 5.00

All the above free by mail on receipt of a remittance in Bank Bills on any Solvent Bank in the Union.

J. M. THORBURN & CO.,
March, 1859.—1t. 15 John Street, New York.

☞ Please observe our other advertisements in this number.

ISABELLA AND CATAWBA GRAPE VINES,
Of proper Age for forming Vineyards,

CULTIVATED from, and containing all the good qualities which the most improved cultivation for over eighteen years has conferred on the Croton Point Vineyards, are offered to the public. Those who may purchase, will receive such instructions for four years as will enable them to cultivate the Grape with entire success, providing their locality is not too far north.

All communications addressed to R. T. UNDERHILL, M. D., New York, or Croton Point, Westchester county, N. Y., will receive attention.

Having ripened his whole crop of Isabella and Catawba Grapes in 1857, the coolest season and most difficult to ripen in twenty years, he is confirmed in the belief that a good crop of fruit can be obtained every year by *improved cultivation, pruning*, &c., in most of the Northern, and all of the Middle, Western, and Southern States.

N. B.—To those who take sufficient to plant six acres, as he directs, he will, when they commence bearing, furnish the owner with one of his Vine-dressers, whom he has instructed in his mode of cultivation, and he will do all the labor of the Vineyard, and insure the most perfect success. The only charge, a reasonable compensation for the labor.

Also, APPLE-QUINCE TREES, (which are sometimes called the Orange Quince,) for sale as above.

Also, for sale, at his Wine and Grape Depot, No. 293 Broadway, N. Y., by the case, in bottles, PURE ISABELLA AND CATAWBA GRAPE WINE, made by competent persons, under his own inspection at Croton Point, from perfectly ripe Grapes, suitable for medicinal, sacramental, and all other purposes, where a *pure wine* is desirable. R. T. UNDERHILL, M. D.
March, 1859.—2t

GRAPE VINES.

CONCORD, Diana, Rebecca, Northern Muscadine, Hartford Prolific, and fifty other varieties of native grapes, at one dollar each. Charges paid by mail or express. Delaware, Perkins, and Anna, three dollars each. Also, a good stock of Lawton Blackberries and Orange Raspberries. Address
March, 1859.—2t HOAG & CRAINE, Lockport, N. Y.

SHORT HORN BULLS—Of various ages, which have taken Prizes at National, State, and County Fairs, for sale by
March, 1859.—1t* E. MARKS, Camillus, N. Y.

FRUIT AND ORNAMENTAL TREES
FOR SPRING OF 1859.

ELLWANGER & BARRY beg to inform Planters, Nurserymen and Dealers in Trees, that they have still on hand to offer for Spring Planting, a large stock of the following named articles of superior quality in all respects:

FRUIT DEPARTMENT.

STANDARD PEARS, on Pear stock, 2 and 3 years from bud.
DWARF AND PYRAMID PEARS, on Quince, 2 and 3 yrs from bud.
DWARF AND PYRAMID APPLES, on Paradise and Doucin, 1, 2, and 3 years from bud.
STANDARD CHERRIES, on Mazzard stocks, 2 years from bud.
DWARF AND PYRAMID CHERRIES, on Mahaleb stocks, 1 and 2 yrs from bud.
APPLE QUINCES, grafted, 2 and 3 years from graft.
ENGLISH WALNUTS, BUTTERNUTS, SPANISH CHESTNUTS, FILBERTS, &c.
HARDY GRAPES, including Isabella, Catawba, Clinton, Concord, Diana, Rebecca, Monteith, and other new varieties.
FOREIGN GRAPES, for Vineries, all the most esteemed varieties, well ripened plants, in pots, 1, 2, and 3 years old from the eye.
BLACKBERRIES—New Rochelle or Lawton, and Dorchester.
GOOSEBERRIES—The American Seedling, and large English varieties.
STRAWBERRIES—Upward of 60 varieties, including all the best American and Foreign varieties.
CURRANTS—Red Dutch, Victoria, White Grape, Black Naples, Black English, &c., &c.
RHUBARB—Myatt's, Linnæus, Victorin, Prince Albert, &c.
ASPARAGUS—Strong Roots.

Stocks.

MAZZARD Cherry Seedlings.
MAHALEB do. do.

ORNAMENTAL DEPARTMENT.

DECIDUOUS STANDARD LAWN TREES.
DECIDUOUS WEEPING " "
EVERGREEN TREES, embracing an immense stock of Norway Spruce, from 6 inches to 6 feet. Also, rare California Evergreens, &c.
FLOWERING SHRUBS—All the most desirable, comprising a very large stock.
CLIMBING SHRUBS of all sorts.
ROSES—The largest stock in the country, of all the best sorts, both on the Manetti stock and on their own roots. See Catalogue.
HERBACEOUS PÆONIES—A superb assortment of more that seventy-five varieties.
DAHLIAS—Over one hundred of the most beautiful varieties, including the latest novelties.
PHLOXES—An unrivalled assortment, embracing all the classes.
DIELYTRA SPECTABILIS—The most charming hardy border plant in cultivation—over 10,000 plants.
CHRYSANTHEMUMS, both large and pompone varieties, the newest and best.
CARNATIONS AND PICOTEES—A fine collection.
DELPHINIUM HENDERSONI, MAGNIFICANA, and other beautiful sorts. Besides all the most desirable hardy border plants grown. See Descriptive Catalogue No. 3.

Green-House and Bedding Plants.

All the most useful and popular plants, such as *Fuchsias, Geraniums, Heliotropes, Verbenas, Petunias, Lantanas, Verenicas, Hydrangeas, Bouvardias, Plumbagos*, &c., &c., grown extensively and supplied in quantities, or by the dozen, assorted, at *low rates*. See Catalogue No. 3.

Summer and Autumn Blooming Bulbs.

A superb collection of the new *Gladioli* and *Japan Lilies*, besides *Tuberoses, Tigridias*, &c.

We can say without boasting, that our present stock has never been surpassed in vigor, health, and beauty of growth; and we invite all parties interested to examine it and satisfy themselves.

Packing for distant parts executed in the most careful and skillful manner, and customers treated in all respects with fairness and liberality.

For full and detailed information respecting the stock, prices, terms, &c., we refer to the following Catalogues, which will be sent gratis, prepaid, to all who inclose one stamp for each:

No. 1—Descriptive Catalogue of Fruits.
No. 2—Descriptive Catalogue of Ornamental Trees, Shrubs, Roses &c., &c.
No. 3—Descriptive Catalogue of Dahlias, Green-House and Bedding Plants, &c.
No. 4—Wholesale Catalogue for Nurserymen, Dealers, and others who purchase in large quantities.

ELLWANGER & BARRY,
March, 1859.—2t Mount Hope Nurseries, Rochester, N. Y.

[SIBERIAN ARBOR VITÆ]

ROCHESTER
COMMERCIAL NURSERIES.

H. E. HOOKER & Co.,

THE Proprietors of these old and well-established Nurseries, would call the attention of Amateur Planters, Nurserymen, and Dealers in Trees, to their large and well-assorted stock for the spring and autumn of 1859.

Especial care is taken not to send out anything which will not bear the test with absolute certainty, and purchasers may rely upon receiving perfect satisfaction.

Among the items cultivated upon the Nursery Grounds, in large quantities, will be found

APPLES, on free growing stocks, for Orchards, two to four years from graft.

APPLES, on Paradise and Doucain stocks, for Dwarfs, making beautiful trees for the garden.

PEARS, on their own stocks, two to three years from the bud.

PEARS, on Quince, A No. 1 trees, two years, very thrifty. Also, transplanted trees, with fruit buds.

CHERRIES, on Mazzard stocks for Standards and Mahaleb for Dwarfs, very fine.

PEACHES, one to two years from the bud.

PLUMS, on Plum stocks.

ORANGE QUINCE—a supply of very fine plants.

NECTARINES, APRICOTS, &c.

GRAPE VINES—Always on hand a large stock of all the Native and Foreign hardy varieties.

SMALL FRUITS, including a very extensive assortment of CURRANTS, GOOSEBERRIES, STRAWBERRIES, RASPBERRIES, BLACKBERRIES, &c.

RHUBARB, ASPARAGUS, &c.

IN THE ORNAMENTAL DEPARTMENT

Are intended to be found all the DECIDUOUS ORNAMENTAL TREES, of the most desirable kinds: EVERGREENS of the best varieties; HARDY ORNAMENTAL SHRUBS, ROSES, &c., &c. HEDGE PLANTS of all kinds, including

The American Arbor Vitæ,

Which forms, in a short time, and with very great certainty, one of the MOST BEAUTIFUL SCREENS. A large supply of fine plants, low.

STOCKS FOR NURSERYMEN,

As cheap as elsewhere, including very fine Angers and Fontenay Quince.

As a *specialty*, the subscribers would call particular attention to their stock of

The Hooker Strawberry,

Which they are anxious to disseminate and introduce wherever the Strawberry is appreciated, convinced as they are of its intrinsic excellence.

At the last Annual Meeting of the Genesee Valley Horticultural Society, this variety received *twelve votes* (being the whole number cast) as a variety best adapted for general cultivation, while no other variety had more than seven votes; and it has repeatedly received like flattering testimonials.

Its strong points—EXQUISITE FLAVOR, GREAT BEAUTY, SIZE, and PRODUCTIVENESS, combine to render it, what no other Strawberry can claim to be, one in every respect adapted to the wants of all cultivators.

The fruit is of a beautiful mahogany color even to the core, the plant very vigorous and hardy, and the flowers perfect (a great desideratum).

Strong, healthy plants, true to name, at $2 per 100, $15 per 1000.

☞ Catalogues furnished gratis.

Rochester, N. Y., March, 1859. H. E. HOOKER & CO.

SAMUEL MOULSON,
Of the Old Rochester Nurseries,
AT ROCHESTER, N. Y.,

OFFERS for sale for spring of 1859, the usual assortment of Hardy Nursery Items, well grown and healthy, comprising

APPLES, Standard and Dwarf.
PEARS, do do
CHERRIES, do do
PLUMS, PEACHES, APRICOTS.

GRAPES, Foreign and Native, including the most desirable of the new native sorts.

BLACKBERRIES, in three varieties. STRAWBERRIES.

GOOSEBERRIES, including a fine stock of the native variety Houghton's Seedling.

CURRANTS.

NUTS, in many varieties, including Dwarf European Walnuts, Prolific Chestnuts, Filberts, &c.

STOCKS FOR NURSERYMEN,

Of my own growing, (except the Pear,) as under, viz:

100,000 Quince Stocks;
40,000 Cherry;
150,0 0 Apple;
50,000 Pear.

A retail list of the prices and quantities of each item offered, as well as a wholesale trade list, will be forwarded to any applicant enclosing a stamp. March, 1859.—1t.

ROCHESTER AND LAKE AVENUE
COMMERCIAL NURSERIES,
ROCHESTER, N. Y.

THE Proprietors of the above old establishment offer for the Spring trade a large assortment of the following, at wholesale and retail AT VERY REDUCED PRICES:

APPLES, Standard and Dwarf.
PEARS, do do
CHERRIES, do do
PLUMS, PEACHES, APRICOTS, NECTARINES, &c., &c.

ROSES, ORNAMENTAL TREES, SHRUBS, and EVERGREENS.

HERBACEOUS PLANTS.—Among these will be found a very choice assortment of Pæonias, including twenty-five varieties of our own seedlings, unsurpassed by any European varieties.

GREEN-HOUSE and BEDDING-OUT PLANTS.—The latter will be found a very distinct and well-selected assortment.

DAHLIAS, &c.

☞ MYATT'S VICTORIA Rhubarb and the true GIANT Asparagus, in large or small quantities.

Also, TOMATO PLANTS in pots or transplanted.

Persons ordering from a distance, may rely on having what they may order *carefully packed.*

March, 1859.—1t J. DONNELLAN & CO.

FARMERS!

KNOWLEDGE IS POWER. LABOR COSTS MONEY.

Save your Money, make Machinery, and do your Work.

ONE MAN WITH MIND will do more work with HORSE and MACHINE, than TEN MEN by HAND LABOR, and do it better, increasing your crops fifty per cent, and save the price of the machine in *two days' work.*

The latest labor-saving machines are

Shares' Patent Covering and Hoeing Machines.....$10
do do Cultivating and Hilling Machines..... 10
do do Coller Harrow and Grain Covering Machines, 15

And they are second only to the plow. Where they are used, farmers will not be without them upon any consideration; and our advice to the farmers of this country is to buy these Machines as soon as possible. Where five or more club together and order these Machines, we will make a deduction of $1 each on the Harrow and Grain Coverer, and 50 cents each on the other Machines.

Send for a circular to PEASE & EGGLESTON,
Only Manufacturers, Albany, N. Y.
Responsible Agents wanted. March, 1859.—1t

GRAPES BY MAIL.—Diana, Rebecca, Northern Muscadine Concord, Hartford Prolific, King, Tokalon, Child's Superb, and forty-six other sorts of hardy native grape vines for sale.

Well-rooted plants can be prepared for planting, and sent by mail, carefully packed in oiled silk, and postage paid, on receipt of one dollar each. Delaware and Logan vines at three dollars each. Address C. P. BISSELL & SALTER,
Feb. 1, 1859.—4t. Rochester, N. Y.

PERUVIAN GUANO.—No. 1 Peruvian Guano, Government brand and weight, direct from Peruvian agents, in quantities to suit purchasers, at the lowest market price.

March, 1859.—3t A. LONGETT, 34 Cliff St., New York.

BUFFALO NURSERIES.

[ESTABLISHED IN 1826.]

THE firm of Manley and Mason having been dissolved, and the Greenhouses and Grounds on Ferry street vacated, the business of these Nurseries will be continued at the old place on Utica street, where our Office, Greenhouses, and other buildings, have been erected.

Our Stock embraces nearly everything desirable, both in the Fruit and Ornamental Departments, but we would call particular attention to the

Standard Pear trees, 3 & 4 y'rs;
Dwarf " " " "
Dwarf Cherry trees;
Plum trees (own stock);
Hartford Prolific Grape;
Concord "
Rebecca "
Delaware "
All other HOUSE AND HARDY GRAPES, in usual variety;
Lawton Blackberry;
Dorchester "
Brinckle's Orange Raspberry;
Col. Wilder Raspberry;
Catawissa "
Wilson's Albany Strawberry, and other new varieties.

Roses and other Ornamental Shrubs;
Norway Spruce, 1 ft. to 8 ft;
Balsam Fir, " "
Scotch Pine, " "
Austrian Pine;
American Arbor Vitæ;
Hemlock for Hedges.

Office and Grounds on Utica street, Buffalo, N. Y.
March, 1859.—2t Address D. S. MANLEY.

American Weeds and Useful Plants:

OR

AGRICULTURAL BOTANY,

BY W. DARLINGTON, M. D., WEST CHESTER, PA.

With additions by GEO. THURBER, New York,

A History and Description of all Plants injurious or important to the American Farmer and Gardener; with nearly

THREE HUNDRED ILLUSTRATIONS.

THE WEEDS

Which now infest our farms have, with few exceptions, been introduced from abroad; and being at first unnoticed, have spread from farm to farm, until

IT NOW COSTS THE FARMERS OF AMERICA

MILLIONS OF DOLLARS

Every year for the destruction of these foreigners, or in the injury done to their crops.

Every Farmer should guard his Grounds from the

FIRST APPROACH OF HIS ENEMIES.

As a class-book for Agricultural Schools and Colleges, and a Hand-book for the Farmer, and for all public and private Libraries, this book is the most valuable addition yet made to our already large list of Agricultural Books.

Price ..... $1.50.

Sent by mail, postage paid, on receipt of price.

A. O. MOORE & CO.,
Agricultural Book Publishers,
March, 1859.—2t 140 Fulton street, New York.

ELLIOTT'S

WESTERN FRUIT BOOK.

A NEW EDITION OF THIS WORK,

THOROUGHLY REVISED.

Embracing all the new and valuable Fruits, with the latest improvements in their cultivation, up to January, 1859, especially adapted to the wants of

WESTERN FRUIT GROWERS.

FULL OF EXCELLENT ILLUSTRATIONS.

BY

F. R. ELLIOTT, Pomologist,

Late of Cleveland, Ohio, now of St. Louis, Missouri.

Price .... $1.25.

Sent by mail, post-paid, to any part of the United States, on receipt of price.

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Agricultural Book Publishers,
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March, 1859.—2t No. 308 Broadway, New York.

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Now Ready.

SENT POST-PAID ON RECEIPT OF THE PRICE.

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RURAL MANUALS!

These volumes are devoted to a popular exposition of the more important branches of Rural Economy and Rural Art; thus promoting public taste, enhancing domestic comfort, and diminishing the expenses and increasing the profits of Rural Life and Industry. They are adapted to all sections—Southern as well as Northern interests being faithfully represented therein. The series comprises

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Comprises Directions for the Cultivation of Kitchen Vegetables, Fruits, Flowers, and Ornamental Trees and Shrubs, and an exposition of the Laws of Vegetable Life and Growth.

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With Chapters on Agricultural Chemistry, Soils, Manures, Draining, Irrigation, Fencing, Farm Implements, etc. Illustrated.

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THE HOUSE—THE GARDEN—THE FARM—AND DOMESTIC ANIMALS,

Bound in one large, handsome, gilt volume, may be had for $1.50. It forms of itself a COMPLETE LIBRARY OF RURAL AFFAIRS, and should have a place on the book-shelf of every resident of the country. Sent prepaid by FIRST MAIL. Address

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March, 1859.—2t No. 308 Broadway, New York.

LANDSCAPE GARDENING.

BY

A. J. DOWNING AND H. W. SARGENT.

THIS elegant work on PRACTICAL LANDSCAPE GARDENING, comprises A. J. DOWNING'S great work, and a new and valuable Treatise by

HENRY WINTHROP SARGENT,

Giving the progress of Rural Art in the United States to the present time; descriptions of AMERICAN PLACES,

PRIVATE RESIDENCES,

CENTRAL PARK, N. Y., LLEWELLYN PARK, N. J.,

With a full account of the newer

DECIDUOUS AND EVERGREEN TREES AND SHRUBS.

Presenting also, in a tabular view, the experience of cultivators in different parts of the Union, with the hardy and half-hardy Evergreens.

The Illustrations consist of

SEVEN SUPERB STEEL PLATE ENGRAVINGS,

Besides numerous engravings, on wood and stone, of the best

AMERICAN RESIDENCES AND PARKS,

With portraits of many new or remarkable Trees and Shrubs.

Price ..... $3.50.

Sent by mail, prepaid, on receipt of price.

A. O. MOORE & CO.,
Agricultural Book Publishers,
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J. M. THORBURN & CO.,

15 JOHN STREET, NEW YORK,

HAVE now in store their entirely new stock of SEEDS, comprising VEGETABLE, FIELD, HERB, FLOWER AND TREE SEEDS, warranted fresh and true to name. The superior quality of the following we particularly recommend, all of which are required *early:*

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Broad Windsor Beans, per quart,	20
Extra Early and Blood Turnip Beet, each, per oz.,	10
Purple and White Cape Brocoli, " "	40
Early Winningstadt and Oxheart Cabbage, each, per oz.,	20
Early and Giant White Solid Celery, " "	20
Pride-Fighter and other Frame Cucumbers, per pkt.,	25
Improved New York Purple Egg Plant, per oz.,	50
Early White Vienna Kohlrabi, "	20
Early Curled Silesia Lettuce, "	20
Extra Curled Parsley, "	10
Extra Early Daniel O'Rourke Peas, per quart,	30
" " Sangster's No. 1 " "	30
" " Burlington " "	30
" " Tom Thumb " "	75
Fairbeard's Champion of England " "	30
Napoleon and Eugenie " each, "	75
Long Cayenne and Squash Pepper, " per oz.,	40
Early Scarlet Turnip and Frame Radish, each, per oz.,	10
Round Spinach, per lb.,	50
Early Red, Smooth, and Mammoth Tomato, each, per oz.,	25
Norway Spruce and European Silver Fir, " per lb.,	100
Deciduous Cypress Seed, per quart,	30
Red Cedar, "	25
Black Austrian and Pitch Pine, each, per lb.,	800
Scotch Fir, "	150
Chinese Arbor Vitæ, "	300
Yellow and Honey Locust, " "	75
Osage Orange, per quart,	75
Kentucky Coffee Tree, per quart,	150
Virgilia Lutea (a very rare tree), per oz.,	200
Apple Seed, per bushel, $9: per quart,	50
Pear and Quince Seed, each, per lb.,	250
Apricot Pits, per quart,	75
Lucerne Seed, per lb.,	25
Best White Clover, per lb.,	30
French Mixed Lawn Grass (extra), per bushel,	500
Perennial Rye " "	300
Orchard " "	150
Kentucky Blue " "	175
Early Potatoes, six varieties, from $1.50 to $2.50 per bushel.	
Dioscorea Batatas, or Chinese Potatoes, fine roots, $1.25 per doz.	

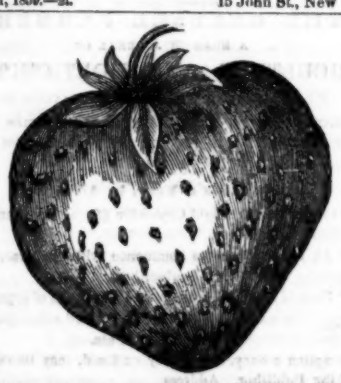
The following CATALOGUES will be sent to all desiring them, by enclosing for each or any one of them a one cent stamp:

Catalogue of Flower Seeds.
Catalogue of Vegetable and Agricultural Seeds.
Catalogue of Tree and Shrub Seeds.

☞ Also, Trade Lists of the above, for Seed Merchants.

J. M. THORBURN & CO.,
Growers and Importers of Seeds.

Feb. 1, 1859.—2t. 15 John St., New York.



GET THE MOST PRODUCTIVE STRAWBERRY.

Which is that? Why, the "Wilson's Albany."

A SINGLE plant the past season produced the enormous quantity of 370 berries. Will produce from 150 to 200 bushels per acre. It is a splendid berry for market, very firm, and of a beautiful bright ruby color, pine apple flavor, and altogether one of the most attractive Strawberries in cultivation. Price $2 per 100, $10 per 1000, or $7.50 for 500. Address

JOHN WILSON,
March, 1859.—2t Albany Nursery, Albany, N. Y.

"EVERY BODY SHOULD HAVE A COPY."

THE

Rural Annual and Horticultural Directory

FOR 1859.

THIS work was started in 1856, by the publisher of the *Genesee Farmer*. Its great success affords conclusive evidence, not only of its intrinsic merit, but of its adaptability to the wants of the rural population. A new volume, prepared with great care and replete with new and valuable matter, is issued each year. The fourth volume, for 1859, has appeared, and is a book which cannot be too highly recommended—alike beautiful, interesting, and useful. The articles are all written for its pages by men of experience. It is illustrated with seventy-five appropriate and beautiful engravings.

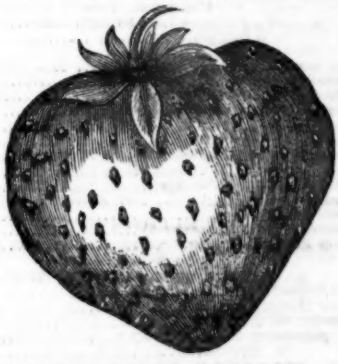
Among its contents may be mentioned able treatises on Underdraining Orchards and Gardens, on the Fruits of the Ohio Valley, on Fruit Culture in the West, on the Cultivation of Fruit Trees in Pots under Glass, on Training Wall and Espalier Trees, on the Cultivation of Bulbous Plants, on the Management of Ducks, Geese, and Swans, on British Breeds of Cattle, on the Cultivation of Ruta Bagas, &c., &c., and a List of Fruits recommended by the American Pomological Society at its last session.

The work will be found invaluable to the Fruit Grower, and useful to every one interested in Rural affairs.

It is furnished at the low price of Twenty-five Cents,—while it contains as much matter as many dollar books. *Every one who owns a rod of ground should have it.* It is sent pre-paid by mail to any address on the receipt of twenty-five cents in coin or postage stamps. Address JOSEPH HARRIS,

Publisher and Proprietor
Of the Genesee Farmer and Rural Annual,
Rochester, N. Y.

The back numbers, for 1856, 1857, and 1858, can be furnished at twenty-five cents each, postage paid.



THE HOOKER STRAWBERRY

MAY be obtained pure, and *in any desired quantity*, from the grounds where it originated. It has only to be known to be appreciated. Its advantages are perfect hardiness, flowers perfect, and great productiveness. Berry of the highest color and largest size, and, *best of all*, MOST EXQUISITE FLAVOR.

Price, $2 per hundred, $15 per thousand.

Order for spring planting, if only a few for trial, of

H. E. HOOKER & CO.,
Feb. 1, 1859.—3t Commercial Nurseries, Rochester, N. Y.

SEEDS! SEEDS!—Our DESCRIPTIVE PRICED CATALOGUE OF VEGETABLE AND AGRICULTURAL SEEDS, for 1859, is now ready for mailing to applicants enclosing a one cent stamp. J. M. THORBURN & CO.,
Seed Warehouse, 15 John St., New York.

N. B.—A Catalogue of Tree and Shrub Seeds will be published shortly, and mailed as above, containing directions for managing Evergreen and other Seeds. Feb. 1.—3t.

RUSSIA MATS—Selected expressly for budding and tying. GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by

D. W. MANWARING, Importer,
August, 1858.—1y* 248 Front Street, New York.

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